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THROUGH A DOCTOR'S GLASSES.*

F. H. SMITH, M. D., F. A. C. P.,
Abingdon, Va.
President, Medical Society of Virginia.

It is a common saying that men's views and opinions are largely molded by their vocational environments. That is, industrialists, bankers, merchants, farmers, teachers, preachers and the rest, each think as they do and as do others of their kinds because, consciously or unconsciously, they are influenced by the sum-total of the opinions, or the traditions, or the customs, or the ethics, perhaps the selfish interests, of their several vocations. Whether or not this saying will stand the test of critical analysis I do not know. At least, for me it is comfortable to think that, when I look through a doctor's glasses at the world around me, my perception and my appreciation of what I see is not exactly that of every other man in the world, but that my view is somewhat different, just because I am a doctor.

Of course, if this be so, you and I can see alike, and that is the premise upon which I shall proceed in developing my thought on this occasion: The physicians' attitude toward problems connected with the care of the sick.

Even so, there will be still individual differences. We admit that we are looking through glasses, and that glasses imply defective vision. Our eyes may be astigmatic or myopic, and the kind and degree of defect may not be uniform. So, the right is given to each of us, when another's vision seems distorted or shortsighted, to make the necessary correction for human frailty, and to accept only that which we find good. I am sure you will use that privilege, and I hope that charity, in the present case.

At the outset, I need to remind myself, and possibly all physicians, that now, perhaps more rigidly than at any previous time, we should be extremely careful in all that we say to avoid giving offense or being misunderstood. To use the expression of the man on the street, doctors are "on the spot." They are charged with arrogating to themselves special privileges, with seeking the preservation of a "medical hierarchy," or the perpetuation of a "medical trust," and that in so seeking and striving they ignore the good of the ordinary man. A carelessly uttered word may confirm these suspicions. On the contrary, so far as I can see, no physician does or should oppose anything on the ground that it will injure physicians, either individually or collectively: if for no other reason, because it will do no good to oppose any movement on the ground of self-preservation. Should the time come when the private practice of medicine becomes obsolete, or the interest of the private practitioner conflict with those of the common good, then both practice and practitioner are as dead as the proverbial dodo.

We cannot over-emphasize this point, nor the fact that it is heartedly conceded by the profession. It is a primary condition of all of our thinking and planning. The physician claims no rights or privileges save those of his common citizenship, no interests save those of his patients. He asks only to serve under conditions in which he can serve satisfactorily. Even the license to practice medicine is not his by inherent right: he practices under grant of privilege by the state.

Parenthetically, however, the right to practice medicine once having been conferred, physicians should be protected not only in that right, but also in the privileges growing consistently out of that right, unless or until, indeed, the license has been

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revoked by due process of law. If, in the exercise of my right by license, I build a practice, or invest in hospital or sanatorium, the state should no more destroy that investment insidiously by entering into destructive competition with that business than should the individual destroy that property by fire or vandalism. There should be no difference between private and public morality, even in the name of public policy, except, of course, in the emergency of war or similar catastrophe.

In spite of all of the propaganda that would put physicians and the public into opposing and hostile camps, their ultimate interests are identical or, at least, mutually dependent. Certainly, physicians cannot prosper without a contented clientele, and the public cannot thrive without capable physicians. Admit that the individual physician is a human being, with all the weaknesses of other human beings, it is the fact nevertheless that the organized medical profession has, for more than one thousand years, dedicated itself exclusively to the health and well-being of humanity. If, therefore, there is any body of men able by tradition and training to speak for sick people, of their needs, and how to accomplish those needs, that body is the organized medical profession.

Trite, possibly sophomoric, such remarks may seem to this audience. But such self-evident facts are being forgotten by a large body of socially-minded people, until now it has become a doctrine, cutting across even political lines, that sickness should be provided for, as should unemployment and dependent old age, by the machinery, and through the implementation, of government.

This is not the proper forum before which to discuss the trends of political thinking. The doctor is not a politician, or, at least, he keeps his politics and the healing art as separate as the poles. But the people have become socially-minded. Sickness has become a social problem. Unfortunately, "social security" has become entangled with partisan politics. Therefore, the problems of sickness have become political. Thus, the doctor, whether he wills it or not, may be forced to take sides upon issues which should never have become political at all.

With the issue thus thrust upon us, the time has come when physicians must throw off their habitual reluctance to discuss publicly their affairs with relation to the sick. Too long already have we kept silent, permitting the advocates of radical change to usurp the field which traditionally and rightfully is that of the organized medical profession.

The doctrine that government should secure its citizenry against the vicissitudes of life is not new. Most countries of Europe have enacted or decreed so-called social security laws, some of them two generations ago. Provision of some sort of governmental control of medical practice is a part of all, or nearly all, of these European codes. Nor is the doctrine new in our country. Until just now, however, we have shrugged our shoulders, and branded such schemes as mere socialism. Socialism or not, much of what we regarded as just fancy and dreams a few years ago is now the law of the land—and "provision to meet the economic risks of illness" is just another item on the same program.

Really, legislative activity has anticipated congressional action. Already, the American Association for Social Security has introduced, or is about to introduce, into the legislatures of thirty-three states a bill to set up state-controlled systems of medical practice. Should this bill become law in Virginia, 90 to 95 per cent of Virginians might pass, voluntarily or involuntarily, into a system of medical practice controlled by a board, appointed by the Governor, headed by himself, upon which board there may or may not be a single practicing physician.

This is the situation as it exists today. That it is real is attested by the fact that those who are best informed are the most concerned. That the movement can be successfully resisted seems to depend upon whether executives and legislators of federal and state governments can be persuaded that these plans are, after all, not in the interest of the average man. Organized medicine should be prepared to accept and meet the challenge. For, if the profession cannot persuade genuine friends of the people that any system of government-controlled practice is at least as vicious for the common man as it is for the physician himself, then, I say, the doctor has no case in the court of public opinion.

The case against the present provisions for the care of the sick is brief, but, in all fairness, grave. Specifically, we are told that the relationship of private practitioner to patient is of value to the patient only as the physician is capable, and not all physicians are capable. Second, the physicians are badly distributed, so that many sections are overcrowded with physicians, while others are inade-

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quately served. Third, that a large number of the people are not able to pay for necessary services even if they be available.

Let us admit, if only for the sake of argument, that each of these charges is well founded. Instantly we ask: Does any form of government-controlled medicine yet proposed accomplish the desired ends? Do they not, rather, add serious complications to the situation? Analysis will show that all of these criticisms are mutually dependent and interlocked, and that they are fundamentally economic and not professional. Therefore, the faults will not be corrected by placing the medical profession in a strait-jacket. It cannot be denied that poorly prepared physicians tend to gravitate toward poorer sections to avoid competition with others better prepared. The tendency is toward further deterioration of both physician and people. As the present generation of faithful, if poorly equipped, doctors wear out doing what they can for their people, none take their places, because the people are too poor to pay the young doctor. Medical education and equipment nowadays are too expensive to permit young men to gamble upon a location. Just as important, we are training young men today for anything else than country, or general, practice.

At least, faulty distribution of doctors is just one result of the faulty distribution of wealth and of the advantages that money can buy. But there is no way to force doctors to go where they cannot make a living, unless, indeed, we are prepared to adopt a complete system of "State Medicine," by which the government seizes the right to move the personnel of the profession from one station to another, as the Army and Navy officer is shifted "for the good of the service."

Otherwise, no solution yet proposed touches these problems. For all present and proposed plans envisage as within their scope only the man employed in industry, with or without his family. The unemployed, the unemployable, the subnormal, the self-employed, the farm laborer and the domestic servant are not provided for in these compulsory schemes, because it is impracticable to extend the "benefits" of so-called "health insurance" to these classes. Yet these constitute most of the problems that physicians of Virginia have to contend with. Any plan omitting them is no plan at all.

What need, therefore, to analyze at length other grave objections to any plan of government-controlled medical practice! Government control and such an intangible, imponderable thing as the personal service of a good medical care are simply a contradiction of terms. The one is incompatible with the other. No people can have both. If it is private practice that must go, then the American people must look forward, not to an improved service, but to a levelling-down to a drab mediocrity. If the experience of other countries is duplicated, the more complete the control in order to widen the "benefits," the lower the level, as personal initiative of the professional man and his interest in his work are the more completely throttled.

Upon this rock of fact and reasoning organized medicine can take its stand. Clinical medicine stands still today where the government has control. Medicine advances where it is untrammeled. Russia realizes and acknowledges this to be true. She is releasing her scientists, and Russian medicine is coming back to life. Had medicine stood still in our country since 1880, or even 1890, there would be no demand today for a change. In that day a king could not command, nor could a millionaire buy what is today commonplace in both diagnosis and treatment.

Therein lies the crux of our present unhappy situation. Paradoxically, want of medical care exists in the midst of abundant medical resources. How so? Just because medicine has grown so big, no substitute has been found for the doctor and his increasing skill, and no one would tell him to stop advancing and achieving in his search for the conquest of disease. When one man could serve his community from his saddle-bags and pocket-kit with all that was known of his art, his services needed not to be and were not expensive. Today, the doctor's capital investment in time and money, and his "overhead," combined, are larger than that of any individual in business. Thus, his wares have become expensive. Curiously, yet naturally, men do not think of medical care as they do of other commodities which they buy. When one wants to buy a better radio, or automobile, or refrigerating plant, he expects to pay more for the finer article. When he wants medical service, he demands the best, even though he cannot pay for it. If he cannot purchase it, he demands that he have it gratis, or of government, just as he does the other essentials of life, food, clothing and shelter.

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In that last sentence we have drawn the only indictment to which the medical profession must plead guilty. We must admit that we have allowed the scientific achievements of modern medicine to far outstrip progress in what we call for want of a better term, the economics of our vocation. In other words, we have been poor business men. We should have been able long ago to predict and to provide for the day when the storehouses of medical lore and resources should have become crammed with a commodity which the people, hungry for medical service, could not buy because the price would inevitably rise beyond their means. But we did not do so. In fact, until just a short while ago, it was considered bad manners to discuss publicly such a sordid thing as money matters! How times have changed! We talk of little else now, but, like our comments on the weather, we have done little about it, at least in Virginia!

I am wondering whether it is too great a stretch of the imagination to connect our present predicament in economics with another phenomenon of the development of scientific medicine. At least, I am sure that in becoming more and more masters and doctors of the sciences of medicine, more and more specialized, we have become also less sensitive to the humanities of life. In the latest Van Dine story, one of his characters says of another: "Professor Garden is a scientist, of course, and, therefore, not altogether human." I wonder whether the same remark can be made fairly of some of our fraternity? Admit that some of our best doctors have been fortunate enough to preserve the common touch—perhaps this explains in part why they are distinguished—more of us, from the time we were students, have been taught in terms of disease rather than of the man who has the disease. We have been surrounded with machines, with clerks, technicians and assistants, until we have become more and more remote, less persons, less personable. The more machines we use, the more machine-like we become in precision, doubtless, but people in distress are looking for something more than machines and precision.

A second charge in the same indictment: Doctors have caught step with the tempo of the times. We are moving too fast. We have forgotten the art of leisurely thinking, and of cultivating the intellectual and spiritual values of thought and reflection. And so it is easy to fall into the habit of reliance upon various laboratory technicians to do our thinking for us, forgetting that there are disorders and disasters of these bodies and of these emotional lives of our's which even the X-ray does not reveal.

A country doctor said to me the other day: "I am not as good a doctor as I was in the horse and buggy days. Then, I had time to think of my last patient before getting to the next. Now, sometimes I slow my car down to fifteen or twenty miles, trying to think, and, damme, I am forced off the road or honked at by others until I get mad. Then I drive like hell, just like the rest!" Our patients and their friends sense this restlessness and hurry. They feel that they have been cheated out of something, even if they know not what. I think that if I were called upon to deliver a lay-sermon to doctors, I would choose as my text: "Be still and know —," not only that He is God, but that those committed to our care were made by Him with cravings and heartaches to which also we must minister. And more: I would remind the doctor himself that he is losing much of the finer things of life in his hurry for professional preferment. There is a price to pay for attainment and success, renown and busy-ness. I wonder sometimes whether the price is not too great.

Doctor David Riesman says that he recently asked a renowned artisan in wrought iron why the world is no longer able to build great Gothic cathedrals like that of Chartres. "Today," the artisan replied, "men are draftsmen; in those days they were craftsmen." So, medicine is, or should be, hand-craftsmanship of the finest, most personal sort. It is turned out by artisans who have served intimate apprenticeship with the masters. They work with tools and equipment and in shops the most expensive of all. They deal with material the most precious in the world, human beings. How is such a professional craftsman as the modern doctor, scientist and artist in one, to turn out day by day masterpieces of his professional work, and yet live!

There is your problem and mine. I believe we have the genius and the statesmanship to solve the problem if we will, and if we are permitted to. So far, we have approached it only half-heartedly, some with a feeling of skepticism as to the imminence of any personal threat; others from a feeling of futility of the individual to resist great social

upheavals. Truly, we cannot resist the progress of human welfare, and we would not if we could. On the other hand, we can join with those seeking real human progress, and, with our intimate knowledge and experience in this one department of human welfare, we can counsel and guide the thinking and planning of these agencies. To decline to cooperate transgresses the noblest traditions of our profession, and in the end will destroy the very interests which we are trying to protect. To agree to cooperate means the surrender of certain airs and prides, of a certain degree of individualism and independence. It means some sacrifices which we need not name. But these sacrifices will be small indeed, if we can but preserve the irreducible minimum of a good medical service—good, that is, from the standpoint of the recipient.

Not long ago I listened in at a discussion between two churchmen on the rise of some, and the decline of other religious denominations. One took the position that certain churches are losing out because they are carrying with them still the airs of aristocracy, and there is no such thing any longer as aristocracy. No, replied the other, aristocracy is a thing of the past, *except* the aristocracy of brains, and the privilege of using those brains in the service of mankind!

Let the import of these words sink in. The aristocrat, even in his hey-day, was in the distinct minority in his community, else he would not have stood out above the mass. He is gone. There is left now only the aristocracy of brains. Their's is the privilege of serving humanity.

Another has coined an equally arresting phrase: The Thinking Minority.

I suggest to you doctors that you belong, or should belong, to this thinking minority. Always a minority in your respective communities, you exert, you should exert, you once exerted, a personal influence second to none, because it is the tradition of your profession to use your brains unselfishly in the service of mankind. In large degree, we left this influence behind with the horse and buggy, thereby abandoning what we might call Social Medicine to any who would take it up, the theorist, the welfare worker, the politician, to the imminent threat of all that is best in the science and art of medicine. Now, if ever, is the chance to regain and reassert that leadership and redeem the trust handed down to us by generations of fathers in medicine, a trust to which they, at least, were always faithful.

And now I come to the end of a year's service in this honorable office. No one can come to such an hour without mixed emotions. If there is one emotion more dominant than another as I approach the moment of joining that vast and respectable company of past presidents—"has beens," if you please—it is the consciousness of the privilege that has been mine of heading up this body of men, equal in capacity to any in the state and nation. The only regret I have is that I did not have opportunity to know each of you personally and intimately. I hope the time will soon come when your President, as such or when President-elect, will be allowed the means of attending, and then invited to attend, at least one meeting of each society within the State.

I do not believe that you expect me to find words adequately to express my gratification and pleasure at having been called to this high office. How I, a plain country doctor from the mountains of remote Southwestern Virginia, could have found favor in your eyes, is past my understanding. Instead, let me utter, as it were in heartfelt benediction, a wish for each one of you:

That you may be "supported all the day long, until the shadows lengthen, and the evening come, and the busy world is hushed, and the fever of life is over, and your work is done. Then, may you be granted a safe lodging, and a holy rest, and peace at the last."

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THE TOXEMIAS OF PREGNANCY AND CERTAIN DEFICIENCY DISEASES.*

ROBERT A. ROSS, M. D., F. A. C. S.,
Durham, N. C.
Assistant Professor of Obstetrics and Gynecology, Duke University Medical School.

The idea that the diet during pregnancy has to do with the causation of the toxemias of pregnancy is not a new one; however, the attention has chiefly been focused on the energy producing elements and not so much the accessory factors. The carbohydrates in early nausea and the proteins in late toxemia are the chief indictments. At the present time the apparent abnormalities in protein metabolism are chiefly considered as physiological and carbohydrate metabolism is known to be influenced by other things, such as vitamins, hormones, yeast, *et cetera.*

The paradox in the diet during pregnancy is known and recorded. The geographic, seasonal, economic, climatic, optional and obligatory factors which influence the diet offer further puzzling problems, some of which seem irreconciliable. Then, too, the fact remains that we consider pregnancy a normal physiological process, yet we fail to answer adequately many of the pathological manifestations.

It is unnecessary and almost impossible to recount the various ideas as to the causation of the toxemias. One gets the idea, which was voiced over one hundred years ago, that perhaps after all the late toxemia has no one cause, but is probably a syndrome. Zweifel did not overstate it when he called eclampsia a disease of theories. Most everyone realizes the all too often mistake of looking to the uterus and its contents for the answer to the various pregnancy riddles.

So long as we use the term "toxemia of pregnancy" and so long as we are unable to demonstrate or isolate any toxin, then we are at liberty to look in any and all directions for evidence and search for the solution of the problem.

McLester in his official speech before the A. M. A. alluded to the possibility that many of the answers to the disease riddles may be found in the diet deficiency syndromes and pointed out that some of our obstetrical problems were being and had been investigated with this in mind.

Lusk has given us a world of material in his splendid book on nutrition. Macomber and others have made many worth-while contributions. Mellanby has made some very significant contributions on nutrition during the pregnant state and has urged the obstetricians not to think only of the mechanism of labor and its problem and has shown how at least two of the sinister triad of obstetrical complications—infection and toxemia—may be combated by proper nutrition. Obstetricians everywhere are grateful for his contributions.

In previous papers we have given our statistics, and emphasized the similarities and differences between our series of late toxemias, drawn largely from rural North Carolina, and other men in different localities. Lately our attention has been focused on certain characteristics which seem fairly constant. To state it poorly, we have been struck with the number of patients in eclampsia who are in a very poor state of nutrition. On checking the localities from which they are referred and on reviewing the state morbidity and mortality statistics, we find that the same areas in which eclampsia occurs most often we are apt to find a larger percentage of pellagra and similar diseases. With this fact in mind and with some experience in treating the early toxemias and polyneuritis, we have tried to analyze our records and see if they correspond with the opinions of others.

It seems proper that we should evaluate what information is at hand that may be significant. Strauss, McDonald and Castle have shown that dietary deficiencies can account for both hypochromic and macrocytic anemias of pregnancy and submit facts which they think favor the view that polyneuritis of pregnancy is a deficiency disease and may be satisfactorily treated as such. Beckwitz and Lufkin reviewed the literature and collected fifty-two true cases. In practically every instance the

*Read before the Richmond Academy of Medicine, January 22, 1935.

neuritis was preceded by pernicious vomiting. They point out the similarity in the clinical and pathological nerve changes in pregnancy and in the changes in pregnancy and in the changes resulting from beri-beri and pellagra. Plass and Mengert have added other cases and carry the reasoning in the same direction and point to the hope that a more helpful therapy is at hand. Wilson and Garvey, Hoffman and McGoogan among others have also written on this subject.

In the past five years we have seen three known cases of polyneuritis of pregnancy. One terminated fatally the day after admission to the hospital undelivered at four and one-half months. Another recovered the use of her lower extremities one year after therapeutic abortion. The third was four months convalescing after spontaneous abortion at four months. In all three pernicious vomiting was present. The admission diagnosis of the fatal case was acute yellow atrophy of the liver.

We have seen two spurious cases in an experience similiar to Plass and the German writers where the nerve symptoms were probably due to a drug used as an abortifacient and both recovered.

We all know that rats are especially prone to polyneuritis and that intravenous liver extract is quite beneficial but there is difficulty in getting such rats pregnant, and the duration of pregnancy is so short that polyneuritis cannot be induced and cured during pregnancy. However, we hope that we will soon have aid from this source. In the meantime vitamin B should be used as a prophylactic in pernicious vomiting as suggested by Strauss and McDonald.

Those who still hold to the idea of infection in eclampsia can find interesting facts in studying infections in vitamin deficiency. McConkey and Smith in studying the production of tuberculosis in the intestines of guinea pigs found that "the ingestion of tubercule bacilli by the guinea pig is not the sole factor in production of tuberculosis" and in their opinion an adequate supply of vitamin C usually protects these animals against ulcerative tuberculosis, and later in an effort to produce peptic ulcers experimentally they observed that diets deficient in vitamins A, B, and D did not cause peptic ulcers if the supply of vitamin D was adequate, and in case of mechanical injury to the mucosa of the duodenum, healing was rapid and complete when the diet was adequate but was followed by peptic ulcer formation when the diet was deficient in vitamin C. After a most comprehensive review of the literature and a clear check on their own work, D. T. and Susan G. Smith point out the relation of vitamin deficiency to focal infection. They conclude "studies suggest that a deficiency of certain vitamins results in the development of focal infection." The most important of these is vitamin A, which is frequently referred to as the anti-infection vitamin of Mellanby; C and G are next in importance and B and D are less important. There is no proof that E has any relation to infection. Infection is often the first symptom of vitamin deficiency and a higher level of intake is necessary to prevent infection than to promote growth. Pure vitamin deficiencies are rare in this country, yet partial, multiple, chronic deficiencies are probably quite common. This fact should be remembered. Ruffin and Smith in treating pellagra with certain liver preparations at Duke Hospital found, and in reviewing the foods consumed by the patients prior to their development of pellagra, were impressed with the similarity between their diets and the diet which Goldberger and Wheeler used in producing pellagra in convicts in Mississippi. An estimate showed this to be a 2900 calorie diet consisting of fat meat, field peas, rice, hominy, grits, cane syrup, brown gravy and lard and corn meal, which shows a diet deficient in vitamin G (B_2), also A, C, and D, and in iron, calcium, phosphorous and complete proteins. On close and repeated questioning and investigation we find that the type of patient that we see in eclamptic convulsions is the same patient who subsists on a diet similar to the above. We have therefore made an effort to correlate any facts that may have a bearing on the production of eclampsia.

The last report of the bureau of vital statistics in our State showed 74,743 births and 33,069 deaths. Of these deaths 640 were due to diseases of pregnancy, child-birth and the puerperal state. There were 236 deaths due to toxemias of pregnancy and 76 from post-partum hemorrhage, a certain percentage of which would have a toxemic background. During the same year there were 696 deaths from pellagra of which 470 were female and 275 were in the child-bearing age. We wrote to our confreres in five widely divergent localities within the State and found that there were 44 toxemic deaths.

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These counties had a total of 77 deaths from pellagra, 35 of which were in women in the child-bearing age. This seems signficant at first glance but probably means simply that both these diseases are evident throughout the State and simply parallel each other. In our county there were:

Total births—1,748.
Maternal deaths—10.
Deaths from toxemia—5.
Total deaths—county—773.
Maternal deaths—1.3 per cent of total.
Maternal mortality—.55 per cent.

We have investigated our hospital records (Watts, Salvation Army and Duke) for the past four years and in this find that during the past four years 160 females have been treated for pellagra. Only seven of them were pregnant and one of the seven had symptoms of late toxemia. One patient had sprue. We are at present studying the fertility of individuals with pellagra. During the same period of time there were 2,120 patients delivered in these hospitals and 174 patients with late toxemia of pregnancy. Our mortality rate for this complication is about 13 per cent.

At our request Susan Smith made the following list to insure against dietary deficiency, so far as the vitamin and accessory factors are concerned. She suggests the following addition to the average diet:

Six brewers yeast tablets.
Eight ounces tomato or orange juice.
One to two pints of milk.
Two teaspoonsful lactose.
Three ampules of plain Haliver oil (substitute Haliver oil supplemented with Viosterol at this point. This, of course, does not contain the necessary minerals.

Pellagra can be produced experimentally by diet control. We do not think we can duplicate this in eclampsia. However, it has been known for a long while that by proper supervision of the minerals, vitamins and energy producing foods in the diet, eclampsia incidence can be reduced. The various degrees of chronic deficiency in nutrition should be kept in mind and the fact that pregnancy is one of the most exact functional tests for all the symptoms of the body should be appreciated and the danger of some breakdown being precipitated guarded against. We simply state that the pellagra and eclampsia ratio is clearly parallel in North Carolina and we are trying to find any factors which may be helpful in the solution of our problem of the prevention of eclampsia.

DISEASE IN MILITARY CAMPAIGNS.*

NELSON MERCER, M. D.,
Richmond, Va.

Comparison of the number of deaths from disease and battle wounds in various military campaigns is interesting and affords valuable lessons for the future from a medical viewpoint.

The usual graphic descriptions of horrible destruction of life and property by the infinite variety of war weapons have obscured the casualties resulting from the less spectacular and insidious legions of disease, causing them to be relegated to a place of secondary importance in the popular imagination.

Such, however, is not the case. According to Zinsser, "Typhus with its brothers and sisters—plague, cholera, typhoid, and dysentery—has decided more campaigns than Caesar, Hannibal, Napoleon, and all the generals of history. The epidemics get the blame for defeat; the generals the credit for victory. It ought to be the other way round." In his opinion, typhus fever and the louse won the World War; for example, the Austrian Army feared to invade Serbia in 1915 due to an epidemic of typhus which had killed 150,000 people in six months of that year; and, again, in Russia 25,000,000 cases with 3,000,000 deaths from this disease aided the spread of revolution and the complete collapse of its huge army.

Disease has usually caused more deaths than battle wounds in past wars, and many important campaigns have failed because of disease alone. A few examples will be cited.

*Read before the Richmond Academy of Medicine, March 26, 1935.

The Persians under Xerxes were defeated in their invasion of Greece by an epidemic of plague and dysentery; Athens fell as the result of plague; the sieges of Syracuse in 414 B. C. by the Athenians, and in 396 by the Carthaginians failed due to plague in these armies; Mecca was saved by small-pox which decimated the Saracens; the four Crusades to Jerusalem between 1098 and 1270 were accompanied by epidemics of scurvy, plague, small-pox, and probably anthrax; the siege of Bagdad by the Saracens in 1439 failed because of dysentery; Metz was saved from Charles V by scurvy, dysentery, and typhus fever in his army; Maximilian II of Germany was defeated by typhus in his campaign against the Turks in 1566; the French captured Prague in 1741 due to a typhus epidemic among the Austrian defenders; Frederick Wilhelm II of Prussia in 1792, owing to an epidemic of dysentery among his army, was unable to oppose the army of the French Revolution and retreated into Germany.

Since the beginning of the nineteenth century the following campaigns will serve to illustrate the theme:

France sent 58,000 men on an expedition to Santo Domingo in 1802, but yellow fever quickly killed many thousands, and only 8,000 returned to France alive.

Napoleon's Russian campaign failed due to typhus, typhoid, dysentery, and pneumonia resulting from unsanitary conditions and lack of proper food and shelter. Of the 500,000 men in the French Army who invaded Russia in June, 1812, all died of disease except 60,000 killed in battle and 20,000 who returned home in December of the same year.

A Russian Army of 115,000 men invaded Turkey in 1828 and within one month 6,000 men died of plague, and one-half of the total force was sick in hospitals at one time, while 100,000 died of plague, typhus, typhoid, dysentery, or cholera. Only 15,000 returned home.

In the Crimean War of 1854-56 among the British and French allied armies of 200,000 men, 67,000 died of cholera, typhus, typhoid, dysentery, and malaria while 25,000 were killed or died of battle wounds.

The French expedition to Madagascar in 1895 lost one-third of their force of 18,000 men by death from disease, and only 25 from battle wounds.

In the South African War of 1899-1902 the British Army of 448,435 lost 16,171 men from disease, and 5,773 died of battle wounds. Typhoid fever alone caused 59,750 cases of sickness, and 8,227 deaths among all ranks.

Similar conditions have prevailed in the history of wars of the United States.

In the Mexican War of 1846-47 over 100,000 Americans went into Mexico. Of this force 10,986 died of such diseases as typhoid fever, dysentery, small-pox, malaria, and tropical infections, while only 1,549 were killed in battle or died of wounds.

In the War Between the States, 1861-65, the Union Army of 2,213,365 men lost 202,252 from disease, and 111,874 from battle wounds. Such diseases as scurvy, typhoid fever, dysentery, malaria, small-pox, and pneumonia caused the death of many thousands in camps, in prisons, and at the front, due to lack of proper sanitation and hygiene. Typhoid alone caused 27,000 deaths and 75,000 sick cases in the Union Army.

In the Spanish-American War, 1898-99, we lost 379 men in battle, and 4,795 from disease, most of whom never reached Cuba, of a total of 280,564. Typhoid fever alone caused 20,904 cases of sickness and 2,188 deaths principally in camps in this country, as a result of inadequate methods of sanitation and hygiene, and lack of authority of Medical Officers to enforce proper methods.

Our losses in the World War of 1917-18 were: died from disease 58,119; killed or died of battle wounds 50,385. A large percentage of the deaths was caused by influenza which occurred during the war as a pandemic of unprecedented severity. In the United States Army of 4,016,936 men there were only 2,200 cases of typhoid fever with 200 deaths. This is in marked contrast to previous wars, and the great reduction in its incidence was due to compulsory inoculation against this dreaded disease, improved methods of sanitation and hygiene in the field, and excellent cooperation between Commanders of line units and Medical Officers, which policy was enforced by the War Department.

(See Table 1 for above data).

Such tremendous losses from disease, mostly preventable, were almost entirely due to ignorance and neglect on the part of officers and men of the various armies involved. But there is no longer any excuse for such losses, as the following methods of

TABLE 1.—DEATHS FROM DISEASE IN MILITARY CAMPAIGNS

Campaign and Year	*Army*	*Troops Engaged*	*Killed or Died of Battle Wounds*	*Died of Disease*	*Per Cent of Total Died of Disease*
Santo Domingo, 1802	French	58,000	-----	50,000	86.2
Russian, 1812	French	500,000	60,000	420,000	84
Turkish, 1828-29	Russian	115,000	-----	100,000	86.9
Crimean War, 1854-56	British & French	200,000	25,000	67,000	33.5
Madagascar, 1895	French	18,000	25	6,000	33.3
South Africa, 1899-1902	British	448,435	5,773	16,171[1]	3.6
Mexican War, 1846-47	American	108,475	1,549	10,986	10.1
Civil War, 1861-65	Union	2,213,365	111,874	202,252[2]	9.1
Spanish-American, 1898-99	American	280,564	379	4,795[3]	1.7
World War, 1917-18	American	4,016,936	50,385	58,119[4]	1.4

[1]Typhoid fever alone caused 8,227 deaths and 59,750 sick cases in the British Army.
[2]Typhoid fever alone caused 27,000 deaths and 75,000 sick cases in the Union Army.
[3]Typhoid fever alone caused 2,188 deaths and 20,904 sick cases in the United States Army.
[4]Typhoid fever alone caused 200 deaths and 2,200 sick cases in the United States Army.

hygiene and sanitation will prevent the occurrence or spread of these diseases:

(a) Dietary deficiency diseases as scurvy, beriberi, rickets, and xerophthalmia are avoided by a diet containing vitamins A, B, C, D, and E in milk, butter, eggs, spinach, whole grains of any kind, dried beans, tomatoes, raw cabbage, citrus fruits, lettuce, berries, liver, and other meats. Also green vegetables, sugar and starches, fats and oils, table salt, pure water, tea, coffee, and cocoa are needed in a well-balanced menu for good health.

(b) Diseases of filth, as typhoid and paratyphoid fevers, cholera, dysentery, diarrhea, and intestinal parasites contracted by swallowing infected water or food, and by means of "food, fingers, and flies," are prevented by personal hygiene, immunization with vaccines, purification of water, examination of food-handlers for carriers, inspection of food supplies, destruction of discharges from infected persons, and protection of water and foods from insects and dirt.

(c) Air-borne diseases, as pneumonia, influenza, tuberculosis, diphtheria, scarlet fever, measles, mumps, tonsillitis, and meningitis are prevented by avoiding contact with and isolation of infected persons, destruction of their discharges, immunization, personal hygiene, and use of specific antitoxins and serums.

(d) Insect-borne diseases, as typhus and trench fevers by lice, bubonic plague by rat fleas, dengue, malaria, and yellow fever by mosquitoes, and Rocky Mountain spotted fever by cattle and wood ticks are prevented by killing or controlling all such insects, by destroying their breeding places, and screening all persons in the infested area.

(e) Diseases entering through the skin, as venereal diseases, tetanus, small-pox, chicken-pox, ringworm, hookworm, tropical parasites, lice, and scabies are prevented by prophylaxis, antitoxin, vaccination, isolation and treatment of infected persons, delousing of infested persons and clothing, and personal hygiene.

In addition to the above methods, it is the duty of all officers and men of the armed forces of our nation to conserve and maintain their health, as battles are won only by strong and vigorous soldiers in the field. Without good health, morale, stamina, and courage do not exist in a practical sense.

The Medical Corps of the Army has two motives in the plan of national defense: one is humanitarian, to ease the suffering and save the life of the soldier; the other is tactical, to conserve and maintain the fighting strength of the army. This is the prime function of the Medical Corps and the mission of all of its officers, nurses, and enlisted men.

Man-power is the most valuable and costly resource of a nation in peace and in war. A veteran soldier saved from disease or death from battle wounds is worth far more than a green recruit.

The best trained, the bravest, and the largest army will be vanquished by the unseen legions of disease always on the alert, especially during military campaigns, without proper sanitary and hygienic protection.

Application of modern methods of military hygiene and sanitation, and constant supervision by Commanders in cooperation with Medical Officers, it is believed, will save many thousands of soldiers from disease and death in future wars.

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601 North Davis Avenue.

CONTRACEPTION: AN ANALYSIS OF SIXTY CASES USING THE COMBINED METHOD—VAGINAL DIAPHRAGM PLUS JELLY.

W. M. BOWMAN, M. D.,
Petersburg, Va.

It is not the purpose of this article to consider the subject of contraception or birth control as such but to present an unbiased detailed analysis of sixty cases using the vaginal diaphragm pessary in conjunction with a spermicidal jelly. This work was started in 1928, and, in addition to the initial case data and advice, a follow-up record has been maintained as far as possible up to the present. This series does not by any means represent the entire number of patients to whom contraceptive advice was given, but the writer has been unable to locate the others in order to obtain the desired information. It is felt that the data herein reported is unusually accurate and reliable because the majority of the patients were either close friends or personally known, which fact made it easier to obtain information by personal contact at frequent intervals over a period of years.

Up to 1928 little information as to actual results achieved with various methods of contraception had been obtained in this country due to several factors, but chiefly because the subject was taboo both socially and professionally. Given impetus by prominent lay people, birth control clinics have been established throughout the nation, whereby reliable, scientific advice may be obtained. Although endorsed by prominent men of science, literature and public affairs as well as by numerous medical, religious, political, social and educational groups, birth control has not been officially recognized by organized medicine. It is feared that unless this is done in order to perfect some form of medical control, this weapon of great power for good will be jeopardized, since modern contraceptive supplies are being sold promiscuously to the public by pharmaceutical stores without regard to proper instructions or examinations which they are not in a position to give.

From a survey made in 1933-34 by a group of physicians, it was established that interest in and the prescribing of contraceptives was found in every state, and, further, that the professional status of physicians prescribing contraceptives averages high. This survey also showed that the use of the occlusive diaphragm and spermicidal jelly was preferred by the greatest number of physicians replying to the questionnaire and that this combined method was held to be the most efficient as well as the least harmful physiologically and psychologically. The fact that less than an average of 5 per cent failures was reported for all patients using the method is highly suggestive of its effectiveness. This compares exceedingly accurately with the 96 per cent protection obtained by clinics and the 97 per cent reported herein. No method yet developed assures 100 per cent success at all times and under all conditions.

The majority of the patients reported herein are from Virginia, but others are from New York, District of Columbia, North and South Carolina, and Georgia. The minimum age was seventeen years, the maximum forty-eight, and average was twenty-seven years. The maximum time married when fitted was twenty years, the minimum twelve hours, and the average five and five-tenths years.

The husbands of these patients represent twenty-three different occupations, including those from physicians, ministers, bankers, college professors, salesmen, farmers, etc., down to the factory workers and truck drivers. Those in the upper occupational groups and skilled workers' class constitute 80 per cent, the high incidence of which is expected

in private practice. The private patients and those in the upper strata of society have no trouble in getting contraceptive advice, but those that really need this information, the poorer classes, have been neglected by organized medicine.

The economic conditions were good in 59 per cent of the cases, fair in 30 per cent, and poor in 11 per cent.

As to the health of the families, thirty-six cases, or 60 per cent, were good. In nineteen cases the health of the wife was either fair or poor. In one case the patient had renal stones, pyelitis, and cystitis. Two cases had moderately advanced active tuberculosis. One case had cardio-renal disease, another a goitre, and nine cases had pronounced pelvic trouble. Five cases were very nervous, frail, and definitely anemic. In five families, the husband in one case was unable to work on account of a large, post-operative ventral hernia with a draining sinus, while in another case the husband was a severe diabetic. In the remaining three cases each husband had arrested tuberculosis.

It is of interest to note the various religions represented by these patients who sought contraceptive information. There were fifty-five Protestants (91.6 per cent), three Catholics (5 per cent), and two Hebrews (3 per cent). In the larger clinics the Protestants number about 50 per cent, the Catholics 30 per cent, and the Hebrews 10 per cent.

It can hardly be claimed that the majority of women who seek contraceptive advice do so with a desire to shirk motherhood, for among the thousands of applicants the average number of pregnancies is four, of living children three, and nearly 25 per cent have five or more living children. In this group of sixty cases there were 146 pregnancies, of which there were ninety-seven living children, four dead, and forty-five abortions or 30 per cent. Sixteen of these abortions, or 36 per cent, were accidental, and twenty-nine or 64 per cent induced. Of the induced, twenty-seven were by drugs self-administered, one illegally by a physician, and one therapeutically performed on account of active tuberculosis. There were nineteen cases, or 31 per cent, without children. It might be of interest to enumerate the number of living children as follows:

Sixty-eight per cent have one or more living children;

Thirty-eight per cent have two or more living children;

Twenty-four per cent have three or more living children;

Seventeen per cent have four or more living children;

Six per cent have five or more living children.

Only one patient, age thirty-three, married nineteen years, has ten living children and in addition has had three miscarriages. In another case the wife was forty-one years of age, married twenty years, and besides five living children had fifteen miscarriages. Another, age twenty-six, married four years, and did not have any living children but had six self-induced miscarriages. This patient stated that she just couldn't go through with a pregnancy and would commit suicide first. The high incidence of illegal abortions (62 per cent) admitted out of a total of forty-five is startling and may even be higher. That women will resort to abortions in the absence of reliable contraceptive advice is clearly evident, not only from these cases but also from the fact that there has been a notorious increase in the United States, estimated to be a million a year illegally performed by physicians, and 250,000 by others not physicians. Not only is the cost to the victims of $100,000,000, but sadder is the fact that these abortions result in a large percentage of deaths. This is an enormous and unnecessary waste of human life and energy which may be prevented to a large extent by scientific, effective contraceptive methods.

In 97 per cent of these cases contraceptive methods were used either by the wife, or husband alone, or by both.

When used by the wife alone in thirty-nine cases, the methods and substances used may be enumerated in order of frequency, as follows:

A. *Douche* (twenty-nine cases): Lysol (seventeen), bichloride of mercury (three), plain water (three), vinegar (two), lactic acid (one), soda (one), zonite (one), boric acid (one).

B. *Douche plus Suppository* (six cases).

C. *Contraceptive Jelly* (three cases).

D. *Contraceptive Jelly plus Vinegar Douche* (one case).

When used by the husband alone in thirty-eight cases, the contraceptive methods were as follows:

A. *Condom* (twenty-two cases).

B. *Withdrawal* (twelve cases).

C. *Condom plus Withdrawal* (three cases).

D. *Condom at time of Ejaculation* (one case).

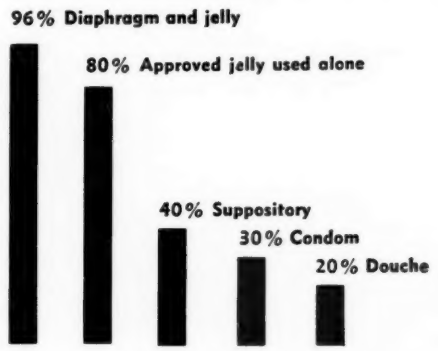
When used by both together in nine cases, the methods were as follows:

A. *Douche plus Condom* (four cases).

B. *Douche plus Withdrawal* (three cases).

C. *Jelly plus Condom* (two cases).

Thus it is easily seen that the use of contraceptives is about equally divided between husband and wife. In the wife's method the douche is used more frequently and lysol leads the field. The condom is preferred as a means of protection by the husband when using a contraceptive followed next in popularity by withdrawal. In three cases the wife stated that she "hated" condoms, and, in addition, two of these cases claimed they caused irritation. In general, the husband did not profess love for the condom. It might be stated also that single methods used led to more accidental pregnancies than double methods. The douche seemed to be the most hazardous and the condom next. With the douche, various clinics report only 20 per cent success, and with suppositories, 40 per cent.



If the douche is used in spite of the high percentage of failures, proper medication may increase the effect of irrigation. There is a tendency, however, for women to be careless in their choice and use of chemicals as contraceptives and many thus suffer injurious effects. Bichloride of mercury and lysol, both widely used by women, have caused death when used in a douche and should be condemned. As an instance of carelessness, one of these patients stated that she always used two tablespoonsful of lysol to the quart of water as a contraceptive douche and literally burned her tissues to such an extent that the "flesh just peeled off." If chemical contraceptives are to be used, they can be employed to a greater advantage and with much greater chances of success in the form of jellies. The jelly that is most frequently used is, perhaps, the lactic acid form, and results have shown it to give about 80 per cent protection. When carefully tested and properly applied, the condom should offer a very safe and simple method of contraception, yet we find frequent failures; in fact, various clinics show that the success obtained with its use is only 30 per cent. As to coitus interruptus or withdrawal, suffice it to say that this method is not only inefficient (65 per cent failures) but is physiologically and psychologically unsound.

All of these cases were fitted with the same make of diaphragm pessary and used in conjunction with a contraceptive jelly obtained from the same firm. The majority of the patients were satisfactorily fitted within a few minutes and with little or no difficulty. Since detailed instructions are essential to success, more time is usually consumed in this manner and explaining the relationship and functions of the pelvic organs than with the actual mechanical procedures. A thorough gynecological examination is imperative since certain pathological conditions may be present and thus interfere with a proper fitting. It is also important that both the bladder and the lowel bowel be empty at the time of fitting. The largest pessary that can be comfortably used should be chosen. A possible pregnancy should always be kept in mind and, if there is any suspicion whatsoever, then the patient should be requested to return after her next period and take no chances in the meantime. Always caution the patient that her vaginal condition may change, especially in case of the newly-wed or after childbirth, and that she should report for another examination and refitting. A bride may in general be fitted within two to six weeks after marriage and occasionally earlier. In the meantime she is instructed to use a reliable contraceptive jelly and to give greater protection the husband should use tested condoms. It is always a safe and wise procedure to allow the patient to walk around the office a little after you feel that the correct fit has been made, since you will occasionally find that, when you reexamine her, a larger size will be required.

It might be well to state just what trouble was experienced in the fitting of these sixty cases. In

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only one case, in spite of her intelligence, the patient just didn't seem to catch on to a very simple procedure, so her husband was instructed to do the job, which he did very quickly and to the entire satisfaction of all concerned. Some little difficulty may be experienced by the patient where the vaginal floor angulates sharply downward from the introitus. The pessary has a tendency to lodge against the anterior surface of the cervix instead of following the posterior vaginal wall under the os. This may be remedied by having the patient use a finger of the opposite hand and guide the posterior rim of the pessary pass the cervix. In only two instances was the fit unsatisfactory and those in cases of a marked relaxed vagina. It would probably have been better to have used a special type of pessary (matrisalus) or given some other suitable method. In all cases the finger nails of the patient should be examined or have her use finger cots, for, in one case that will never be forgotten, the vagina bled rather profusely at the time of fitting from an incised wound self-inflicted by her long nails.

H-R PHYSICIANS' FITTING SET WITH VAGINAL MODEL

In most of the clinics the majority of women can be fitted with sizes 65, 70, 75, and 80. These sizes will be found in the physician's fitting set along with a vaginal model which is a valuable aid to the physician in the instruction of his patients. Fitting rings may be used instead in order to determine the correct size of the pessary needed. These may be obtained in sizes 50 to 90 mm. and kept on hand. These cases were fitted in order of frequency as follows:

No. 75 vaginal diaphragm pessary—36 per cent.
No. 80 vaginal diaphragm pessary—27 per cent.
No. 85 vaginal diaphragm pessary—17 per cent.
No. 70 diaphragm pessary—12 per cent.
No. 65 diaphragm pessary— 7 per cent.

Only one case took a size 90 and this has given entire satisfaction and protection for four and one-half years.

These patients have been using this method for an average of twenty-three and five-tenths months. Further details in this regard may be enumerated as follows:

Forty-one cases, or 83 per cent, have used this method twelve months or more.

Twenty-four cases, or 48 per cent, have used this method two years or more.

Ten cases, or 20 per cent, have used this method three years or more.

Five cases, or 10 per cent, have used this method four years or more.

Only one case has been using it for over five years.

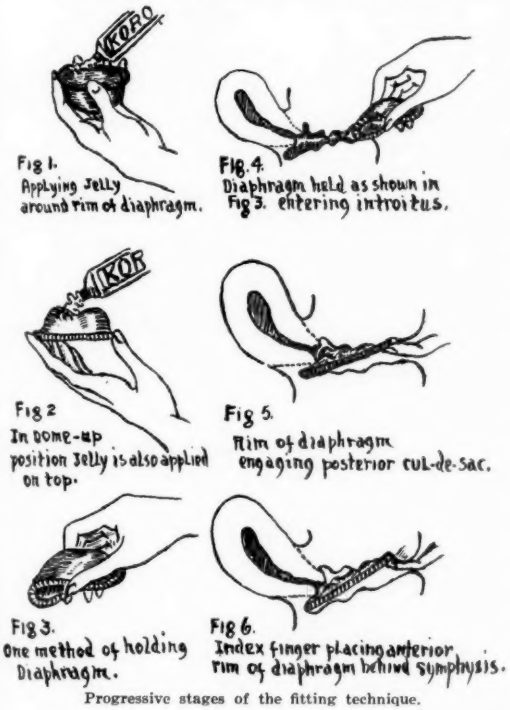
As previously stated, the method has given 97 per cent protection. Twelve pregnancies have occurred since these cases were fitted, but only two of these must be attributed to failure of the method. In two cases it was known at the time that the fit was unsatisfactory and this was explained to the patients, but they insisted that they had tried every other method and were willing to take the chance. It is not felt that a known unsatisfactory fit should be classified as a failure. In another case the patient was overdue a period by a few days and was advised to wait a while to see if she would menstruate as there was a possibility that she might be pregnant. She desired to be fitted in spite of this advice and when she was examined later she was found to be about two months pregnant. One case stopped using the pessary after six months and became pregnant immediately afterwards. Two cases stopped after one year and both became pregnant shortly afterwards. Another case, after using the pessary for several months according to instructions, decided to insert it at the time of her husband's ejaculation because she felt that this was the only unsafe moment. She found out differently and became pregnant, which was not necessarily the fault of the pessary since it is known that live sperms are occasionally present in the male secretion prior to ejaculation. In three cases, after using the

method with entire satisfaction and protection for three years, pregnancies were desired and occurred immediately after omitting the pessary and jelly. The two cases which are credited with having failed to protect, the pregnancies occurred within three months after use. One of the patients stated, however, that she might have been careless in inserting the pessary.

The cases that had any difficulty at all with the method or voiced any complaint may be enumerated as follows:

(a) In one case the patient claimed that it was uncomfortable for a while, but she got over this and now wouldn't be without it.

(b) In another case, the wife said it was too much trouble to use, yet she desired no more children and could hardly provide for those she already had. It is inconceivable how the pregnancy that followed could be less trouble than the method.


KORO
Fig 1.
Applying Jelly around rim of diaphragm.
Fig. 4.
Diaphragm held as shown in Fig 3. entering introitus.
KOR
Fig 2
In dome-up position Jelly is also applied on top.
Fig 5.
Rim of diaphragm engaging posterior cul-de-sac.
Fig 3.
One method of holding Diaphragm.
Fig 6.
Index finger placing anterior rim of diaphragm behind symphysis.

Progressive stages of the fitting technique.

(c) Another case said that it was slightly uncomfortable, but she didn't mind that as long as it afforded protection.

(d) Another, after using it for a year with full protection, stated that it made her nervous, so she discontinued its use and became pregnant.

(e) Another stopped after a year because her "husband was lazy," as she expressed it. A pregnancy followed, which was destroyed by drugs self-administered. Complications occurred which required hospitalization and surgical procedures. She claimed that she was a "fool" for not using the pessary.

(f) After using the method for one year, the husband objected to his wife using any method at all. She has gotten by without her husband's knowledge of the fact that she was at least using a jelly and vinegar douche.

(g) Another case used the method for about six months and then claimed that it was "uncomfortable and hurt." She became pregnant afterwards, but now says that after she gets over this pregnancy she will use it regardless.

(h) In one case the husband experienced a rather marked burning sensation from the jelly, evidently being sensitive to the glycerine, but after about two weeks this disappeared entirely.

It is rather remarkable as to the life of these pessaries. In only two instances was it necessary to make a replacement. In both, the springs were found to be broken when the pessaries were withdrawn. It is safe to state that in general a pessary manufactured by a reliable firm will far outlast the guarantee. In several instances pessaries used by these patients, which were formerly guaranteed for a year, have lasted for two and one-half years. One patient is using the same pessary she was fitted with three years ago and it is still in excellent condition.

Until a better method is developed giving entire security and simplicity the vaginal occlusive type of pessary plus a reliable spermicidal jelly must be given preference over all others. First, and foremost, it is reliable. Second, it is physiologically permissible. Third, it is the most successful from the psychological point of view. Fourth, it requires the least preparation commensurate with complete protection. Fifth, it is the simplest method yet devised giving adequate protection. No one has yet been able to bring forward any clinical evidence that this type of pessary, properly fitted by a physician, correctly used and cared for, has ever injured any woman in any respect whatsoever.

Patients as a rule are most grateful for a method that covers the above points. They are high in their praise and free with their expressions. Listen to some of their actually recorded remarks:

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"Wonderful! I wouldn't sell mine for anything."
"A miracle! Unable to tell its presence."
"Mind is easier. Fear of pregnancy is gone."
"Why didn't I find out about this before."
"It's a pity that all women don't know about this."
"My husband doesn't know it's there."
"No trouble to use—just a matter of a few seconds now."

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101 Liberty Street.

ERYTHEMA NODOSUM—WITH REPORT OF THREE CASES FOLLOWING MEASLES.*

THOMAS E. OAST, M. D.,
Portsmouth, Va.

H. K. Shaw,[1] in Abt's Pediastrics, defines erythema nodosum as "an acute infectious disease which presents a peculiar bruise-like eruption on the skin, and is characterized by a period of incubation, of invasion, of eruption and of desquamation."

The name erythema nodosum was first given this condition in 1799 by a French physician, Robert Willan. The nature and cause of erythema nodosum have aroused considerable controversy. At one time it was considered a form of erythema multiform. Then McKenzie,[2] in 1886, associated it with rheumatism, and this was unquestioned until 1905 when Lendon suggested that it was mildly infectious and a clinical entity. He considered phlyctenular conjunctivitis, which is now held as tubercular, as a pathognomonic prodromal sign.

At the present time various writers place erythema nodosum among these categories: (1) rheumatic, (2) tubercular, (3) specific disease entity.

The rheumatic association with this condition is rather a heritage from days past. Hardly anyone at this time will admit a definite rheumatic etiology in this connection.

Feer[3] reported 749 cases from the literature, finding only three complicated by endocarditis, indicating the improbability of a rheumatic connection.

Koch,[4] in 48 cases, reported no joint complications. Landau,[5] in 130 cases, reported rheumatic symptoms in only five of these.

The tubercular conception of erythema nodosum is one that has numerous supporters, especially abroad. This casual relationship was first noted by Uffelmann[6] and Oehme, in 1872, when they saw it in association with tubercular meningitis. However, not until the Von Pirquet tuberculin test became popular did it attract many advocates. Pollak,[7] of Austria, thought it a tuberculous skin disease but could never isolate the tubercle bacilli. Elsa Lagergren[8] in all cases seen at the Children's Hospital of Goteborg, Sweden, from 1922-27, showed a close connection with tuberculosis. In only six of 142 cases did she get a negative tuberculosis skin test, and five of these had been tubercular contacts.

Dickey,[9] in 16 cases, concluded that a tuberculous infection existed if we consider the intracutaneous tuberculin test specific, and that in most cases a perifocal reaction in the chest was found by X-ray. He regards the condition as evidence of an early infection with tubercle bacilli unless proved to the contrary.

Landau[10] describes four cases of a class of thirty-one pupils and found the source of infection to be a girl with a right side cavernous type of tuberculosis. He considers it a tubercular manifestation.

Dennes von Moritz[11] reported 10 cases, all giving a positive tuberculin test.

*Read before the Norfolk County Medical Society November 26, 1934.

Nicola Johannsen[12] concluded that erythema nodosum was an allergic disease of the skin, often caused by allergens originating in a tubercular focus.

Gamstedt,[24] in 51 cases, reported tuberculin test negative in all just before the eruption fever, and positive in all just after the fever with one exception, and this was positive five days later.

J. O. Symes[13] concluded there was an undeniable association between erythema nodosum and tuberculosis based on clinical evidence, but poorly shown on the pathological and bacteriological side.

Ernberg,[14] who is one of the outstanding champions of the tubercular theory, reasons very clearly that "The symptom complex, called erythema nodosum can be explained as an autogenous tuberculin reaction." First, he argues that it is not merely a disease of the skin, for the temperature curve does not coincide with the eruption. Tubercle bacilli have never been isolated from the skin lesion, disproving the theory that it is skin tuberculosis. In a series of thirty-nine cases, nearly all showed pathologic hilar glands by X-ray and two showed lymphomas of the neck. Then he made a "histologic comparison of excised erythema nodosum infiltrates with excised infiltrates elicited by injection of tuberculin in patients reacting positively to tuberculin but without erythema nodosum." This examination showed a very striking histologic likeness. In still other instances he was able to cause a recurrence of the condition by injecting tuberculin intradermally. By this reasoning he explains why tubercle bacilli are in the system. He has repeatedly shown that the tuberculin test is negative before the eruption and strongly positive simultaneously with it.

Wallgren,[15] another prominent investigator in this field, has probably made the most impressive contribution to the tubercular theory. He believes "that the eruption occurs at the end of incubation, a point in time at which allergy to the tubercular infection becomes positive. That the time elapsing between tuberculous infection and allergia should be considered as the real period of incubation. Erythema nodosum seems to correspond to the eruption of the acute eruptive diseases and ought to be considered as the exanthema of tuberculosis." Quoting Wallgren further, "The contention that erythema nodosum is of a tubercular nature is based on fact: (1) That pathologically enlarged hilar shadows are shown by X-ray, and these are expressions of tuberculosis of the hilar glands." He argues that "the first anatomic manifestation of tuberculosis in children is the primary focus with infection of the regional glands. Consequently, in children with erythema nodosum who give a positive tuberculin test, there should be a primary focus from which tubercle bacilli can be eventually detected." On this assumption he gave the children on the day before examination potassium iodide to loosen the secretion. Then the stomach was washed with 200 c.c. of normal saline. This was centrifuged and the sediment injected in guinea pigs. Forty children were thus examined. Of the thirty-seven who gave positive skin tests, he found tubercle bacilli in seventeen, and in these seventeen all had enlarged hilar shadows as shown by X-ray. This work was substantiated by Collis[16] who found tubercle bacilli in three out of five tuberculin positive cases. These facts are probably the most conclusive evidence of the association of the two conditions yet brought forward.

On the other hand, advocating the theory that it is a specific disease entity, Moon[17] and Strauss, of Philadelphia, are the most recent writers (1932). They reviewed considerable of the literature but were not convinced of the tubercular idea. So they did some investigating of their own and cultivated from the subcutaneous tissue in each of three cases of erythema nodosum an organism of the genus Corynebacterium. They also isolated this same organism from the blood in one case. In thirteen of fourteen inoculated animals lesions were produced with the histologic characteristics of this condition, recovering the same organisms in cultures from these lesions. Similar organisms were demonstrated in the lesions from the patients and the lesions from the animals. On this evidence they disavow its association with tuberculosis and think the organism should be called "'Corynebacterium cutis nodosae." This is the only instance of any corroboration of the work of Rosenow[18] in 1915, when he claimed to have isolated a diphtheroid organism, with some streptococcal characteristics, from the nodes, and reproduced the disease in animals. Rosenow[19] further considered this organism to have a selective affinity for subcutaneous tissue with the infection atrium commonly in the tonsils and pus pockets about the teeth. He considered "the pain in the subcutaneous nodules due to a hemorrhagic

infiltration and edema surrounding a relatively large blood vessel and the adjoining nerve trunk."

Brooke,[20] in 1933, reported a case complicating chronic ulcerative colitis. One nodule broke down (which is very rare) and he found a gram positive diplococcus here and in the ulcer of the rectum, which were apparently the same.

Other arguments pointing to this being a definite febrile entity are given by Blummer[21] as (1) the occurrence of several cases in the same family; (2) occurrence of groups of cases in institutions; (3) the occurrence of a considerable number of cases in certain districts over a limited period of time. He quotes various British authors in support of this view—Lannois, Anderson, Cooper and W. L. Symes.

The infectious nature of this disease is attested by J. O. Symes,[22] reporting three cases in the same family, and also two cases nine days after a child was admitted to the ward with this condition.

Fox,[23] deals with erythema nodosum under skin diseases, and considers it as a clinical entity.

Symptoms: This disease complex is comparatively rare in children, occurring more frequently in girls than boys, and usually in the spring of the year. There is a history of some debilitating disease followed by malaise and fever for several days to a week, and then the typical eruption; this consists of more or less symmetrical deep-seated nodes over the tibial surface of the legs and the extensor surface of arms. These nodes, or nodules, are reddish to blue, slightly raised and from one-half to one inch in diameter. They tend to be oval with the long axis the same as the extremity. Pain is one of the outstanding characteristics of these nodes. They pass through stages very much like a bruise, turning from red to a dusky blue, at times seeming to fluctuate, but rarely if ever to the point of suppuration. They may occur in crops and last from several days to two or three weeks, usually scaling and leaving a bluish discoloration for several days, but no scarring.

Symmetrical red to bluish red nodules over the tibia and extensor surface of arms, their extremely painful nature, with tenderness to touch; their acute nature, and seldom suppurating, ought to easily differentiate this condition from abscesses, osteomyelitis, gumma, and erythema induratum.

Treatment: The treatment consists in keeping the child at rest, preferably in bed, and the application of soothing lotions, such as calamine lotion. It is self-limited in duration and, if it were not for its potential tubercular aspects, would attract little attention. This possibility, however, should put one on guard, and every means made to detect if there has been a tubercular contact. The child should be tested intracutaneously with tuberculin and, if positive, an X-ray of the chest should be made for possible hilar gland enlargements. These should again be checked after several months to see if calcification has occurred or if any extension has taken place. The patient should be considered as having been exposed to a tubercular contact and kept under observation for potential tuberculosis unless it can be definitely shown to the contrary.

The *prognosis* is good. As previously noted, the nodes disappear after varying periods up to three weeks. Those cases showing tuberculosis, consisting of positive skin tests and pathology in the chest by X-ray, usually have the childhood type of that disease, which is mild, and have good chance for complete arresting of the process provided repeated contact with tuberculosis can be avoided.

During the winter of 1933 and into the spring of 1934 we experienced quite an epidemic of measles in Portsmouth. Characteristic of the epidemic was the fact that the children were very ill with their measles, but experienced relatively few severe complications. Following this siege, I ran into three cases of erythema nodosum within a week's time. These patients lived in separate sections of the city and had measles ten days, twelve days and seventeen days previously. There is nothing unusual in having this condition following measles, for it is seen after any debilitating disease. The fact that the three cases came in so short a period of time aroused my interested and prompted this report.

CASE REPORTS

Case 1.—B. R. C., a girl* of 6 years, who had a severe case of measles early in March, 1934. Two brothers were similarly affected at this time, though neither subsequently developed erythema nodosum. She had been discharged following measles, but on March 15th, I saw her again on account of fever of 103, of two days' duration, with headache and indefinite pains over the entire body. Her physical examination at this time was entirely

*This child (Case 1) died with tubercular meningitis, April, 1935.

negative. Her urine was negative. The next day the typical red nodules appeared over both shins. There were four on each leg and they were very tender and painful. In another day two more nodules made their appearance on the extensor surface of the arms, and one painful area just above the right clavicle. This was more of a gland and was not discolored. Emberg speaks of this symptom in two of his cases. Her temperature ranged from 101 to 103 for ten days, gradually subsiding, as did the nodules. She was kept in bed three weeks. Then a Mantoux test was made, using .05 mgm., and a strongly positive reaction was obtained. In seeking a possible tubercular contact in this case it was found that the child's father had only recently returned from a sanitorium, but had been discharged with a negative diagnosis. However, on April 5, 1934, an X-ray of the child's chest was made by Dr. Fred Barrow, and this is his report: "The thorax is symmetrical; diaphragm is smooth; there is no fluid in either base. The heart shadow is within normal limits. The primary trunks are slightly exaggerated on both sides. There is no definite calcium reaction and there is no evidence of subpleural or parenchymatous infiltration. In the mediastinal area above the aortic level, roughly in the first interspace, there is a rounded shadow that measures 5 cm. in trans-section, suggesting glandular enlargement without evidence of calcification. This does not have the appearance of a thymic enlargement." His conclusion is, "The mediastinal shadow described is most likely due to a tracheobronchial lymph node enlargement. Without evidence of calcification a diagnosis of childhood type of tuberculosis is unwarranted. Subsequent examination would be helpful."

This child is of very frail build and since that time has not been well. Another X-ray of her chest was made October 27, 1934, with this report by Dr. Barrow: "Since last examination there has been definite change in this chest. The enlargement in the first interspace has diminished in size and now measures 3¾ cm. There is no visible calcium deposit in this area. However, there is definite evidence of calcification in the hilus and descending trunk zones of the right chest. The trunks are still quite prominent but there is no parenchymatous infiltration demonstrable in the lung periphery." He concludes that "The diagnosis of a tubercular chest cannot be made with certainty but this chest is very suspicious."

Case 2.—Claire C., age 4 years, had severe case of measles twelve days ago. She was first seen March 20, 1934, at which time the typical nodular rash over both tibial regions and the arms was present. Her temperature was 102 and had varied from 102 to 104. Her W. B. C. was 10,000 and urine negative. In addition to the nodes, about ten in all, she had a good crop of herpes about her lips. Her fever lasted about twelve days, with final subsidence of all symptoms. The only contact here was a tubercular patient, living across the street, with whom there was only occasional association. A Mantoux test, done April 10th, was strongly positive. An X-ray of her chest was made April 21st, with this report by Dr. Barrow: "The hilus and trunk markings are slightly exaggerated, more pronounced on the right side, but there is no outspoken pathology demonstrated in this chest."

Since that time the child has had whooping cough, pyelitis, and her tonsils were removed following a cervical adenitis.

An X-ray of her chest, made October 27th, gives this report: "There has been no appreciable change in this chest since last examination except in the right ascending trunks where there appears to be an effort at calcification."

Case 3.—Charlotte W., age 2 years, had measles seventeen days ago and was first seen March 20, 1934, with typical symmetrical nodes over tibial regions of both legs and on each arm on the extensor surface. These were very painful, causing a very cross and fretful baby, with temperature of 103. Chest findings were negative, and urine was negative. There had been no evidence of sore throat. Her temperature was up and down for fourteen days, but the nodes disappeared in ten days. The only contact found here was that the grandfather had a severe cough. He was sent to another physician for examination and found to be in the last stages of tuberculosis, dying one month later.

The child's Mantoux test, done April 10th, was strongly positive. The mother would not consent to an X-ray at this time. Since then the child has had repeated "colds," and, finally, on November 3rd, an X-ray was made, with this report by Dr. Barrow: "In the left chest, extending from the hilus zone and well beyond the heart shadow there

is a lesion of consolidative density, that roughly extends from the fourth to eighth axillary rib level. The outer boundary extends beyond the trunk limits and is not sharply demarcated. There is no evidence of calcification and no evidence of fluid."

Now the question arises, are these three children passing through a period of tuberculous infection? While not outspoken, all three show definite pathology in the chest by X-ray. All gave postive Mantoux tests and all had possible tubercular contacts. Opinion varies in the conception of childhood tuberculosis. Some would consider these glandular shadows about the hilus as definite evidence of a tubercular process. Others will not commit themselves to an outspoken diagnosis until there is evidence of calcification. Regardless of this point, which to me is rather technical, I think, in the face of a positive tuberculin test and definite contact, the burden of proof lies in proving they are not tubercular. Meanwhile they should be treated as tubercular, and future contact should be avoided as re-infection is a more serious problem than is the primary infection.

Professional Building.

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SOME OBSERVATIONS ON A PHYSICAL SURVEY OF CWA EMPLOYEES IN VIRGINIA.*

FRED J. WAMPLER, M. D.,
Richmond, Va.

In spite of the fact that the more than forty-seven thousand physical surveys of CWA employees in Virginia were made by 702 physicians of very different training, ability, and conscientiousness, we may learn a little by analyzing some of the findings.

The purpose of the survey was threefold:

First.—The Government desired to place every safeguard around CWA employees by protecting them from sickness and accident hazards. Diseases, injury, and even sudden death had occurred among the employees, some of which could probably have been avoided if disabling defects had been noted and men classified for and placed on work that they were physically and mentally capable of performing.

Second.—To protect the Federal Government from future unjust and unnecessary claims for compensation by determining the physical condition of its employees.

*From the Department of Preventive Medicine, Medical College of Virginia.

Third.—The local administration in Virginia hoped that a survey of this kind would be a help to the medical profession, for whom collections had been difficult the last few years, by giving them some work for which they would be paid. It was the desire of the director that the work with its compensation, so far as practicable, should go to physicians who were most in need, assuming that these needy physicians were competent to do the examinations.

A rather complete examination blank was prepared by a medical committee appointed by the State Director of Safety CWA, who was made director of the survey. This committee had the advice and help of a committee appointed by the National Safety Director for CWA.

All the material from the examinations has been tabulated, but only certain portions of it will be used for this paper. There was too much variation in the procedure of different examiners to make some of the material of statistical value.

TABLE I
SHOWING PREVIOUS OCCUPATIONS

Farmers	9,381	Stenographers	510
Skilled laborers	11,641	Students	247
Unskilled laborers	19,742	Nurses	204
Clerks	1,540	Musicians	26
Housework	895	Others	2,960

Table I gives the number of individuals coming from the various occupations. Less than three thousand were women.

Men and women were classified in four groups. Those assigned to Class A were without apparent defects or limitations and were capable of any type of work. Those assigned to Class B were those who were slightly under-developed physically, or had anatomical defects, or other conditions which would not prohibit ordinary work or constitute a hazard to the person, himself, or to others on ordinary work. Those placed in Class C were able to do only light work and required special placement. All those who were not physically fit for any available CWA work or, if employed, would be a menace to themselves, to their fellow workers, or to property, were put in Class D. Persons were also put in Class D who were in good condition except for a temporary disability or a transient condition remediable by a brief period of treatment. These were placed in one of the other classifications as soon as they were relieved of the disability. Acute gonorrhea and syphilis were the principal reasons for assigning people to this group.

There were a total of 47,848 employees examined, of which 47,146 were classified and tabulated.

TABLE II
47,146 EXAMINEES CLASSIFIED

	Class	*Individuals*	*Percentage*
White men	A	21,866	64.84%
	B	8,374	24.83%
	C	3,274	9.71%
	D	207	.62%
	Total	33,721	
White women	A	1,570	66.30%
	B	529	22.45%
	C	265	11.23%
	D	4	.02%
	Total	2,368	
Negro men	A	6,993	65.22%
	B	2,509	23.40%
	C	1,115	10.40%
	D	105	.98%
	Total	10,722	
Negro women	A	208	62.08%
	B	83	24.78%
	C	44	12.14%
	D	0	0%
	Total	335	

Table II shows the classification of men and women, white and colored.

TABLE III
CWA EMPLOYEES CLASSIFIED WITHOUT REFERENCE TO SEX OR COLOR

Class	*Total*	*Percentage*
A	30,637	65.00%
B	11,495	24.00%
C	4,698	10.00%
D	316	.67%

Table III shows the classification of the entire group without reference to sex or color. Most series of physical examinations of men applying for industrial employment will show a larger percentage unfit for any work.

All the findings in this survey have been tabulated but only those in which the recorded findings are likely to be close to what a smaller group of uniformly trained physicians would have reported are used in this paper.

Inguinal hernias for the men are tabulated here. The statistics for the women are not included because there were not adequate facilities for examinations for hernias in the average examination center used for the women.

Hernias increase in frequency, as would be expected, with the advancing age groups. There was a frequency of 1.4 per cent in the men under twenty-five to 9.9 per cent in the men above forty-five.

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TABLE IV

HERNIAS IN WHITE AND COLORED MEN

	WHITE MEN				COLORED MEN			
Age Group	*Individuals*	*Hernias*	*Percentage*	*Trusses Worn*	*Individuals*	*Hernias*	*Percentage*	*Trusses Worn*
15-24	5,617	77	1.4%	9	1,369	20	1.5%	0
25-34	8,203	183	2.2%	51	2,385	56	2.4%	13
35-44	8,530	417	4.8%	130	3,114	109	3.5%	31
44 and over	11,361	1,195	10.5%	506	3,849	254	6.5%	78

Table IV shows a number of the findings on the inguinal hernias. There were 2,001 single and 310 double hernias, or a total of 2,311 in 44,418 men. The white men showed a higher percentage of hernias than the colored in the age groups past thirty-five. The total percentage for the entire group was 5.7 per cent. For these 2,311 hernias, there were 819 trusses worn. The per cent of hernias supported by trusses increased with advancing years.

Table IV shows total men, according to color and age groups, examined with numbers and percentages of hernia and trusses worn.

Table V shows the total number of men in each age group with single and double hernias, with percentages for totals, and the number of trusses worn.

Varicose veins were recorded. There was an increase in the cases from 0.8 per cent in the age group under twenty-five to 6.1 per cent in that above forty-five. Excepting for the first age group, the condition was more frequent in the white women than in the white men. After thirty-five years, the colored women's rate was higher than that for white women. The number of colored women examined

TABLE V

ALL MEN CLASSIFIED FOR SINGLE AND DOUBLE INGUINAL HERNIA

Age Group	*Individuals*	*Single*	*Double*	*Total*	*Percentage*	*Trusses Worn*
15-24	6,986	89	8	97	1.4%	9
25-34	10,588	218	21	239	2.3%	65
35-44	11,644	456	70	526	4.5%	161
45 and over	15,200	1,238	211	1,449	9.9%	584
All ages	44,418	2,001	310	2,311	5.7%	819

TABLE VI

VARICOSE VEINS

	15-24 Age Group			25-34 Age Group			35-44 Age Group			45 and Over Age Group		
	Individuals	*Varicose V.*	*Percentage*	*Individuals*	*Varicose V.*	*Percentage*	*Individuals*	*Varicose V.*	*Percentage*	*Individuals*	*Varicose V.*	*Percentage*
White men	5,620	56	.9%	8,207	133	1.6%	8,530	313	3.7%	11,364	790	7.0%
Colored men	1,369	7	.5%	2,387	22	.9%	3,117	64	2.0%	3,849	123	3.2%
White women	748	3	.4%	640	28	4.4%	564	24	4.3%	416	43	10.3%
Colored women	64	0	.0%	84	0	.0%	90	6	7.0%	93	12	13.0%
Total	7,801	66	.8%	11,242	183	1.6%	12,301	407	3.3%	15,722	968	6.1%

was so small that the figures are not significant. Table VI can be seen for more details.

Blood pressure was required on all employees forty years of age and over. In our tabulations, we made the age groups in ten-year periods ending with fours and beginning with fives. For this reason, we have taken for the blood pressure study only those forty-five years old and over. In this group of men and women, including both white and colored, 30¼ per cent were found to have a systolic blood pressure of 150 or more; 17.37 per cent were between 150 and 175, and 12.88 per cent were above 175. The white men with blood pressure of 150 or above were 26.9 per cent, the colored men were 40.63 per cent, the white women 23.53 per cent, and the colored women 39.78 per cent. The writer thinks the blood pressure appeared higher than it actually was. Many of these employees coming before the doctors were badly frightened, thinking they would be thrown out of employment, or for other reasons, such as a report going around among the colored people in Richmond that they were being drafted for military service. This could easily have raised the blood pressure in many cases.

It is interesting to note in a state where vaccination against smallpox has been practically compulsory for years, that only 65 per cent of these people had ever been vaccinated. In the age group 15-24, 73.42 per cent had been successfully vaccinated. In the 25-34 age group, 62.65 per cent had been successfully vaccinated. In the 35-44 age groups, 69.73 per cent had been successfully vaccinated. In the 45 and over age group, 59.29 per cent had been successfully vaccinated. The women were better protected than the men in every age group. The white women averaged a higher percentage of protection than the colored women, and the white men than the colored men. The men from the cities averaged a much better protection than those from the country. Of the rural white men in the 15-24 age group, 68 per cent were protected as against 90 per cent in the urban. Of the rural white men in age group 25-34, 56 per cent were protected as against 82 per cent in the urban. Of the rural white men in the age group 35-44, 74 per cent were protected as against 90 per cent in the urban. Of the rural white men in age group 45 and over, 59 per cent were protected as against 85 per cent in the cities.

Immunization against typhoid fever the last five years was reported in only 10 per cent and only 29 per cent had ever had typhoid vaccine. The highest per cent receiving typhoid vaccine at one time or another was shown by the age groups of 35 to 44. Here 48.5 per cent had received protection. Many of the men in this age group were drafted for the army in 1917 and 1918 and immunization while in the army accounts for this showing. This experience seems to have been of little educational value to them, however, since only 8.4 per cent of this group have had immunization the last five years as contrasted with the 10 per cent average for all age groups.

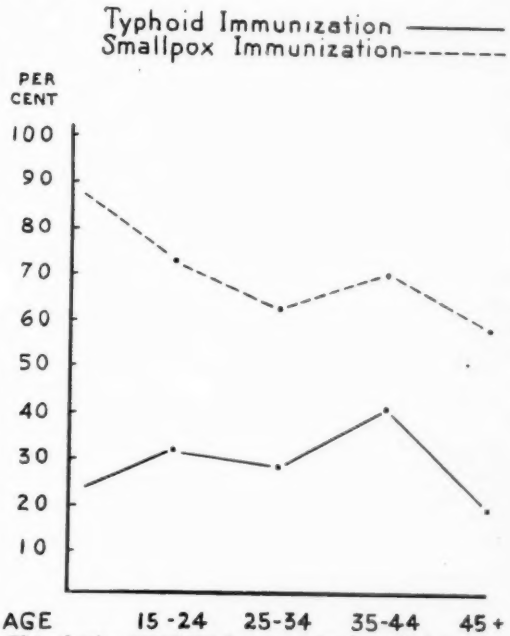

Plate showing percentages by age groups immunized against Typhoid Fever and Smallpox.

Of the ten counties in the State of Virginia showing the highest morbidity rates from typhoid in 1933, six were in the southwestern part of the State. The immunization rate in the employees examined in that section showed 11 per cent having received inoculation against the disease within the last five years.

On the Physical Survey Blank, in addition to the questions about smallpox and typhoid immunizations, there were only a few questions relating to history. One of these was, "Have you been sick or consulted a doctor in the last five years?" This was answered in the affirmative by 7,448 white men

and in the negative by 24,075. Of the colored men, 1,723 answered in the affirmative and 8,421 in the negative. This means a little above 23 per cent of the white men and 17 per cent of the colored men had consulted a physician in five years' time. With the white women, 1,076 answered in the affirmative and 1,250 in the negative, or more than 46 per cent. Of the colored women, 129 reported in the affirmative and 182 in the negative or more than 41 per cent.

In commenting on the above, it is well to remember that many of the people who had actually consulted a physician within the last five years had forgotten it. Allowing that half of those consulting a doctor had forgotten it and assuming that our findings are representative of the people of the State, we still would have nearly a half of our male and more than 25 per cent of our female population not consulting a physician professionally in five years' time.

DISCUSSION

In looking over the mass of material tabulated from the survey of the more than 47,000 men and women in the State of Virginia, it was realized that much of the material was of little statistical value. Certain procedures were not uniform enough to make the findings of value, but other procedures were. It is very evident, however, from the findings that many people are not using physicians as freely as they would were they receiving adequate medical care. One out of every ten men, 45 years old and above, with hernias, two out of every three of these hernias were not properly supported; 10 per cent of the older age group of white women and 7 per cent of the white men had varicose veins; three out of ten, 45 years old and above, had a blood pressure above 150; 35 per cent of the inhabitants of the State were not vaccinated against smallpox, and only 10 per cent had been immunized recently against typhoid fever; 77 per cent of the white men, 85 per cent of the colored men, 54 per cent of the white women, and 59 per cent of the colored women not consulting a physician within the last five years bear eloquent testimony to a physical level far below that which might be attained.

Where the fault is, is not the writer's to say. Certainly, our knowledge of the science of medicine and the prevention of disease is advanced far beyond our application of this knowledge to human needs.

These findings remind us of the need for health examinations for the average individual. We hear that there is an overproduction of physicians. If these findings are representative of what you would find in Virginia, and the writer thinks they are because of the large numbers involved and the State-wide distribution of the people examined, every city and county in the State being represented, then many more physicians than are now living in Virginia could be used in keeping the people healthier and happier.

The question of economics, of course, comes in. How is adequate medical care to be paid for? The writer is not attempting to answer that.

ACUTE COLLAPSE OF THE LUNG WITH COMPLICATIONS DUE TO PRE-EXISTING PATHOLOGY.

H. T. HAWKINS, M. D.,
and
A. M. MCLAUGHLIN, M. D.,
Waynesboro, Va.
and
A. F. ROBERTSON, JR., M. D.,
Staunton, Va.

Atelectasis or collapse of the lung was first recognized by Louis[1] in 1829. It was first carefully described and differentiated from pneumonia by Gairdner,[2] in England, in 1850. In 1890, Pasteur,[3] of London, revived interest in this condition by emphasizing its frequency as a post-operative complication. After the World War Sir John Rose Bradford[4] reported many cases following gun-shot wounds of the chest wall. In spite of this work no cases were reported in this country until 1921 when

Scrimger[5] reported seven post-operative cases. The demonstration of its cure by bronchoscopic aspiration by Jackson and Lee,[6] in 1925, led to the general acceptance of its importance by the profession in this country. Cases previously overlooked or diagnosed as pneumonia are being reported in increasing numbers following operations, fractures of the pelvis or femur, after trivial injuries, and occurring spontaneously.

Numerous theories have been advanced to explain the etiology of atelectasis. Leaving out of consideration those cases caused by compression by air (pneumothorax) or by the fluid of pleural effusion, the present concensus of opinion favors bronchial obstruction by a tenacious plug of mucus as the cause of collapse. Factors which diminish respiratory movements and abolish cough, such as pain, paralysis of the respiratory muscles, inhibition of respiration from general cachexia, recumbency or narcotics, are accessory causes. A bronchus may be obstructed by a tuberculous condition or neoplasm, the lung or a portion of it supplied by the obstructed passage collapsing as the air is absorbed by the aveolar capillaries.

Diagnosis. The symptoms are variable, but we should expect pain in the chest, cough, expectoration, rapid shallow breathing and cyanosis, with elevation of temperature in cases developing suddenly. There may also be elevation of temperature and pulse rate without respiratory symptoms. The physical signs are important. There is flattening of the chest on the affected side with retraction of the interspaces. The trachea and heart are drawn to the affected side and the diaphragm of the same side is elevated. There may be dullness with diminished breath sounds over the lobe involved, or bronchial breathing and crepitant rales may be found. The physical signs may change rapidly when coughing or change of position dislodges the plug, this variability being characteristic. The final diagnosis is determined by the X-ray.

In the case herein reported there was considerable confusion due to the pre-existing condition causing flattening of the chest and displacement of the trachea, etc., toward the affected side prior to the occurrence of the atelectasis.

L. M. W., native American, white, male, married, age 24, height 5 feet 8 inches, weight 141 lbs., was examined for employment as a laborer on a construction job June 21, 1934. Upon baring the chest there was at once apparent a diffuse cardiac impulse on the right side, so evident that it could not escape detection. The man, seeing that the examiner had seen this impulse, grinned and said, "Dextrocardia," and stated it had been found three years previously by a physician who exhibited him before a medical society in Washington. The upper right chest was slightly flattened; the apex beat was diffuse, with point of maximum intensity apparently in the right fifth intercostal space and 3½ inches from the midline. B. P. was 130-80 and pulse 76. There were no murmurs or other abnormal heart sounds and no irregularities. Lung sounds were apparently normal. The other viscera appeared normally located. The man was left-handed. Remainder of physical examination, including Kahn test and urinalysis, was negative. His past history was entirely negative except for an attack of influenza three years previously. He performed his work for two months without incident.

About 9 A. M., August 21, 1934, he reported at the plant First Aid, saying he had received a blow on the left chest about the second intercostal space a few minutes previously and he could not get his breath freely. Said a man on a floor above him handed him down a piece of timber six inches by eight inches by sixteen feet and as he caught the lower end the man above released his hold causing the timber to strike his chest.

Physical examination revealed on inspection that he evidently was in pain and kept his hand on his chest at the point of the alleged blow. There was a cutaneous bruise on the anterior surface upper left arm. No discoloration made out on the chest. Tender at location of the blow. There was some difficulty in breathing, which appeared largely voluntary. Said he had been coughing and spitting some blood.

Examination at this time revealed a well-nourished young man. Neither cyanosis nor pallor was present. The temperature was 96, pulse 100. Blood pressure 116-72, weight 138 pounds. While being examined, the patient coughed and raised some thick, blood-stained purulent material, a specimen of which was sent to the State Board of Health Laboratory and later reported negative for tubercle bacilli. It was evident that something acute had occurred. He was given a hypodermic of morphine, gr. 1/4, and

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atropine, gr. 1/150, and removed to the hospital.

Upon examination at the hospital the temperature was 99.8, pulse 90, respirations 24. He continued to cough and raise the same blood-stained, purulent sputum. There was diminished expansion of the right chest with flattening of the same side, the flattening having been noted two months earlier on original examination. Fremitus was diminished slightly over the right apex and rather sharply over the right base. Breath sounds were distant over the right apex and practically absent over the right base. The left chest was hyperresonant throughout. The leukocyte count was 11,900. A specimen of the sputum was sent to the hospital laboratory and a third sent to the State laboratory. In all, seven specimens of the sputum were examined and all reported negative for tuberculosis.

The patient continued to complain of pain in the left upper chest, keeping his hand on the spot of the alleged blow. He was X-rayed, after an admission diagnosis of left-sided pneumothorax had been made. The location of the pneumothorax on the left side was interesting in view of the X-ray report which was: "First examination showed a hyper-aeration or acute emphysema of the left lung. The middle lobe of the right lung showed atelectasis with apparent partial collapse of the right lower lobe accompanied by a small amount of pneumothorax. There was no heart shadow on the left side, and because of the density of the structures on the right the heart was not definitely visualized. The trachea and mediastinal structures were markedly displaced toward the right. The right diaphragm was elevated and its excursion markedly diminished." Normal location of the other viscera was confirmed.

The patient was put to bed and sedatives ordered. For four days he ran a temperature of 100 to 102 in the afternoon with morning remissions to 97. On several occasions morphine had to be administered for pain. An attempt to get the patient to roll from side to side as has been used in treating these cases resulted in such alarming symptoms of dyspnea and collapse that it was not repeated. After four days the temperature returned to normal and there was gradual improvement in all the symptoms, the right lung slowly returning to activity. This was accompanied by the development of about every known variety of rales over the right chest, particularly at the base. An area at the angle of the right scapula strongly suggested pneumonia with bronchial breathing and crepitant rales. Also the X-ray revealed the trachea, etc., slowly returning toward their normal location, though they only returned slightly, for reasons as shown later. At times the entire chest was filled with such rales as to strongly suggest asthma but the patient stoutly denied that he had ever had asthma. The variations in the chest sounds from day to day were really remarkable.

When this man's history was taken at the hospital he stated that the dextrocardia had first been discovered when he was seven years old, and that at the age of ten he had a bilateral pneumonia, being ill for a long time. This was in direct conflict with his history as given at the time of his original examination. He also stated that he had consulted a physician in Washington three years previously for a cold. This physician sent him to a hospital where he was paid to stay a few days for observation by students, and that fluoroscopic studies of his chest had been made. Inquiry of the hospital brought two reports of the X-ray study. The first one, dated April 25, 1932, was: "The patient has a congenital deformity with a dextrocardia. The entire heart and vessels are on the right side. There is displacement of the trachea into the right chest. The outline of the heart is very indefinite. There is no fluid in either chest space." The second report, dated four days later was: "I will change my opinion and state that the heart, mediastinal structures and trachea are pulled to the right by dence, firm adhesions of the middle portion of the right lung. The heart is small, centrally placed, and pulled to the right. The apex is pulled beyond the left border of the vertebrae. There is marked thickening of the pleura and increased density with fibrous adhesions in the right chest. Diagnosis: Displacement of the heart and mediastinal structures to the right."

The further progress of the case was uneventful, the symptoms and physical signs gradually improving until September 4th when the patient was discharged from the hospital.

It was believed that being occupied would expedite this man's recovery, so on September 5th he was given nominal work to do, sitting down and free from physical effort and made out very com-

fortably. He left the plant at 4:30 P. M. in very good shape. About 9:00 P. M. we were called to see this man at his home. He appeared to be in great distress. He complained of pain in the left chest and said he had had a chill. His temperature was 102, pulse 140 and respirations 40. There were coarse, bubbling and squeaky rales over the entire chest. Morphine and atropine were given hypodermically and the patient removed to the hospital. At 10:00 P. M. in the hospital the lung sounds had almost entirely cleared up, only to light up next morning with return of symptoms. Ephedrin failed to give any relief and adrenalin gave very little. X-ray showed that there was no return of the atelectasis and the patient was discharged a few days later as well. He was placed on light work and for two weeks daily observation made of morning and afternoon temperature, which did not rise above normal. The pulse rate also remained normal.

From October 1st to November 6th frequent but not daily check of temperature and pulse failed to reveal abnormality. During this time the man had frequent unexplained absences, these always occurring the day after pay day, until he was forced to leave his boarding house because of drunkenness. On November 8th he informed us that the weather was getting too cold for him and he was leaving for Florida, which is the last we have heard of him.

While it was evident there had been some truma, a careful investigation established the fact that the accident described by the injured could not have occurred. He could not identify the man who according to his story handed him the timber. No one in the gang in which he was working knew anything about such an incident, and a check-up revealed that there had never been such a timber as he described on the job. There was, however, a very definite bruising of the left arm and marked tenderness on the left upper chest. He never complained for a moment of the right chest but always located his pain on the left.

Shortly after this case was completed, another man presented himself with a dextrocardia. Needless to say his examination was very carefully done, and we established the fact that this case was a true dextrocardia with complete transposition of viscera, his appendix having been removed from the left side, which was verified.

CONCLUSIONS

This case illustrates how much pathology there can be in a chest without its being detected unless X-ray is used. No abnormal lung condition was made out on the original examination, though the X-ray two years previously had demonstrated that there was pathology. Naturally the question arises, "were we not so interested in the dextrocardia that we missed the lung condition?" We think not, because immediately following the alleged injury when attention was definitely focused on the lung we did not find any changes, though some two hours later they were quite evident.

This man evidently had (1) an old deformity of the right lung, etiology unknown; (2) super-imposed on this was an acute atelectasis of the same side; (3) recovering from this, another acute condition, apparently not related to either of the foregoing, developed; (4) the dextrocardia was an acquired and not a congenital condition, linked up with whatever produced the lung deformity.

The role of tuberculosis in the causation of this condition is well known. As atelectasis follows very trifling injuries not necessarily confined to the chest area and may occur spontaneously, it would appear probable that it occurs more frequently than it is recognized. Two other examiners, without seeing the provisional diagnosis or the X-ray report, diagnosed a left-sided pneumothorax, only to be astonished when they saw what the X-ray revealed.

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END-RESULTS AFTER INTERNAL FIXATION OF TRANSCERVICAL FRACTURES OF THE FEMUR.*

H. H. WESCOTT, M. D., F. A. C. S.,
Roanoke, Va.

Three years ago, before this Society, I reported a new operation for fractures of the neck of the femur. I am very proud of the fact that the first report of the operation was presented before this Society, and that I now have the opportunity to present for the first time some end-results following the use of this operation.

Not many years ago, Dr. Whitman, of New York, described his method of reducing fractures of the hip and fixing them in plaster casts. This was a most welcome change from the sand bag and expectant treatment, and it rehabilitated many. This method of cast-fixation has been used more extensively than any other in treating fractures of the hip, but in the future I believe its use will be more or less restricted to those fractures involving only the trochanter or upper end of the femur.

The disadvantages in the use of the plaster spica in fractures of the neck of the femur are many: The individual is rendered inactive at a time in life when active use of each member is necessary to the prevention of stiff joints. The reclining position always predisposes to a hypostatic congestion and pneumonia, which so often proves fatal in these cases.

In 1928 the American Orthopedic Association appointed a commission to study the end-results of fracture of the neck of the femur. They found union present in 20 per cent of the treated cases above sixty years of age. I have often wondered what the reaction of the individual would be if told that after three to six months in a massive cast they would have one chance out of three of ever walking again, and one chance in four of dying as a result of the treatment.

There is little wonder that we have tried to produce some method that would decrease the morbidity and mortality rate while trying to rehabilitate these old people.

For several years, fractures with non-union following the cast treatment have been successfully treated by opening the hip joint, cleaning the fractured ends of the bones and holding them together by an instrument through the center of the neck of the femur. This method has been known as the internal fixation of fractures of the neck of the femur, and its results have been superior to any known method of external fixation including casts, splints, traction or sand bags. However, because of the shock attending the major operation of opening the hip joint, the usefulness of the operation has had to be restricted to a chosen few who were able to withstand the effects of the operation.

In the past, attempts have been made to transfix the broken fragments by passing an instrument, usually an iron nail, through the center of the neck of the femur either with or without a small incision over the trochanter. Though attempted by many, the operation soon fell into disrepute because roentgenograms showed the nail more often in the soft tissues than in the bone. These patients had been taken to the operating room and a nail blindly driven in without taking into consideration the two angles of the neck of the femur, for, in the average individual, when the feet are placed side by side, the femoral neck points forward as well as upward. In each person, unless there previously existed some

*Read before the Southwestern Virginia Medical Society, March 22, 1935.

disease or injury, the two hips are correspondingly the same, and by determining the angles of the normal hip, we are now able to guide the instrument of fixation into the fractured hip after reduction is accomplished.

In January, 1932, with the use of the X-ray, I found it relatively easy to determine the exact number of degrees the neck is set forward in the individual case. By turning the leg *in* the required number of degrees, the neck would be made to point to the center of the pelvis instead of forward. This was the solution of one-half of the problem. The next step was to determine the angle of the neck with the shaft of the femur. A protractor was made that would give the upward angle of the neck when superimposed over the roentgenogram of the hip.

Within the past three years, this method of treating fractures of the femur has been accepted more or less as the method of choice, either in its entirety or with certain reservations. At no time prior to the use of this operation had internal fixation of the fracture been practiced without incorporating the patient in either a cast or brace for a period of from a few weeks to several months. It was definitely proven that external fixation was not only unnecessary but detrimental both physically and mentally to the progress of the patient. In doing away with this fixation, the operation has more or less revolutionized the care of these aged individuals.

As is the case with all new procedures, the operation has been accepted in its entirety or with certain changes in part to suit the individual operator. Especially is this true when the surgeon feels the necessity of simplifying the determination of the two angles of the neck of the femur. Though I have reviewed many such methods, any change to simplify the procedure has been at the expense of some detail which either lengthens the operative time or makes problematical the course of the fixing instrument in the neck of the femur.

Since 1932 I have seen and operated upon thirty-three cases of fractures of the hip, and I wish now to again thank those physicians who at an early date were able to appreciate the inherent qualities of the operation and so kindly furnished the cases. Because of their kindness in referring these patients, and with the hope of making these elderly individuals more comfortable, the operation has been employed in all cases, irrespective of age or physical condition.

The age of the patient seems to influence very little the question of union. The lack of cooperation, due to mental change, is much more likely to influence the end-result. In three cases, because of this lack of cooperation and too early weight-bearing, a non-union resulted. One of the three was successful after a second operation. Case 2 has a non-union after the second operation, while in Case 3 a second operation was not attempted because of mental degeneration. One patient, age 82, had a firm union for two years, both clinically and roentgenologically. This was probably a fibrous union, as there was a recurrence of the fracture following slight trauma. There results one case of non-union following the operation and two cases of non-union following the lack of cooperation.

Because of the small amount of shock incident to the operation, the family physician or internist referring the cases have insisted on the hip being fixed as a possible means of prolonging life. Though we feel that we have been successful in most of these cases, there have been three deaths. The first death was in Case 8. This patient, age 62, had been bed-ridden for eighteen months. She fell from the bed and fractured her left hip. She was extremely septic from a large decubitus over the sacrum and the operation was performed to permit turning in bed to relieve pressure on the bed sore. Death resulted from sepsis on the tenth day.

The second death was in Case 20, a male, age 84. He had marked myocardial changes and a severe arteriosclerosis and generalized arthritis. His death resulted, three weeks after operation, from an acute dilatation of the heart.

The third death was in Case 24, age 76. This patient was showing signs of a uremic poisoning before operation, but was operated upon at the insistence of the internist and died thirty-six hours later.

One of my most interesting cases was Case 27, a female, age 89. She was admitted with a fractured hip and a bronchial pneumonia. The operation was performed under novocain anesthesia and the patient was able to enjoy an automobile ride four weeks from the date of the operation.

By carefully choosing cases for the operation, I feel it would have been possible to at this time re-

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port a good number with perfect end-results and without a death in the series. I am confident there have been no deaths either directly or indirectly attributable to the operation; however, the three deaths following the operation have herein been reported.

Many of these patients who sustained fractures of the hip are now enjoying a ripe old age, with good functional results following the operation. However, had we been interested alone in end-results, these patients would never have been considered as operative risks and probably would have had an early demise, or else be a total loss because of non-union of a fractured hip.

THE EARLY DIAGNOSIS AND SPECIFIC TREATMENT OF LOBAR PNEUMONIA.*

THOMAS N. HUNNICUTT, JR., M. D.,
Newport News, Va.

Until very recently lobar pneumonia was the only infectious disease that had not responded to improved methods of treatment so that its mortality rate had remained unchanged for years. This rate of 33 per cent was fairly constant whether the patient was treated in a hospital under ideal conditions or in a home under poor conditions. Now, however, it is possible to lower the mortality rate to 10 per cent and 15 per cent, respectively, in patients infected with types one or two pneumococci,[1] and, as the majority (66 per cent) of all acute lobar pneumonia is due to these two types, one can easily see the benefits to be derived from using specific therapy. These facts are borne out by large well-controlled series of cases in many localities.[2-3-4-5]

However, several important criteria have to be observed in the successful specific treatment of pneumonia as its usefulness is definitely limited. First and foremost of these is that the diagnosis must be made fairly early in the disease so that the type of the invading pneumococcus can be ascertained and treatment begun early. Second, the type of the pneumococcus responsible for the infection must be one for which we have a potent homologous antiserum.

It has been shown that the earlier specific therapy is begun the more successful it is, and seventy-two hours from the onset, as judged usually by the occurrence of a chill or pain in the chest, has been considered the deadline, but, with the more potent sera of today, the time limit has been extended to ninety-six hours.

*Read before the Warwick County Medical Society, November 12, 1934.

From the above, one can readily see that successful specific therapy first hinges on the early diagnosis of the disease, so let us consider the early symptoms and signs of lobar pneumonia. The diagnosis of a typical case will be easy. The chill and sudden onset with a high fever, pain in the chest, cough, dyspnea without orthopnea, dilatation of the alae nasi on inspiration, the expiratory grunt, bloody, rusty or prune juice sputum, dullness at the base of the lung, tubular breath sounds, crepitant rales and a leukocytosis, all, give a classical unmistakable picture of the disease. Unfortunately, it is not always so typical and one should not hesitate to diagnose it on one or two of these cardinal symptoms and signs, at least suspecting it early so that the laboratory or roentgen ray may be used to differentiate it from similar illnesses.

The early symptoms of lobar pneumonia are varied and simulate many diseases, as peritonitis, acute rheumatic fever, trichiniasis, tuberculous pleurisy, and acute appendicitis (especially in children). The differential diagnosis is not always easy and occasionally the history and mode of onset give the only clues until the laboratory or roentgen ray can be utilized for final proof.

The onset of lobar pneumonia occurs in one of three ways:[6] First, it may begin typically with a chill, pain in the chest and a high fever. Frequently in this type of onset there is a history of exposure to cold, excessive fatigue or acute alcholism. Second, it may begin following an indefinite period of chronic cough, coryza or malaise, when, with no warning, the patient suddenly becomes

worse. A history of some moderate exposure, as "working off a cold," is often obtained in this type of onset. Third, the patient's symptoms may gradually become worse, following a common cold, during an attack of congestive heart failure, or following a surgical operation, so that the time of onset cannot always be definitely determined. Older patients or debilitated ones tend to have an onset like this.

The common early symptoms of lobar pneumonia, as revealed by a study of 770 admissions to the Rockefeller Institute in New York City, were as follows:[6]

75 per cent had pain in the chest.
62 per cent had had a chill.
27 per cent had vomited.

Other symptoms less common were respiratory distress, cough, weakness, syncopal attacks, vertigo, and occasionally, but rarely, convulsions (except in children).

The early signs of lobar pneumonia are more typical and constant than the symptoms, and, in deference to the oft-quoted statement that "the earlier clinicians were keener observers," we will look to them first for these signs.

Since the invention of the stethoscope, over 100 years ago, crepitant rales, likened so aptly to the sounds produced when a tuft of hair is rubbed between the fingers, have been considered pathognomonic of lobar pneumonia. Laennec and others of his time believed that this rale was the only early sign heard in pneumonia, and that it was only heard in this disease,[7] but we now know that this is not true, for the crepitant rale is heard as well in the presence of pulmonary infarcts, atelectasis, and sometimes in pulmonary tuberculosis; also, it is not always heard early, but may be heard only late in the disease, when resolution is beginning.[8]

Tyson[9] in 1896 gave the following early signs of lobar pneumonia: high pitched percussion note; diminished breath sounds; subcrepitant, coarse and sibilant rales.

Pye-Smith[10] and Anders,[11] writing a few years later, gave the same signs.

Connor and Dodge[12] analyzed the early signs found in 392 cases of lobar pneumonia, and found an impaired or tympanitic percussion note, feeble breath sounds, crepitant rales and increased vocal resonance, all fairly constant signs. This work, done thirty years ago, is still quoted in present-day textbooks.

Among contemporary physicians the earliest signs noted are suppression of breath sounds, moist rales, increased vocal resonance and whispered pectoriloquy.

As an aid to the early diagnosis of lobar pneumonia, the laboratory plays an important part, for a leukocytosis is an early and constant finding, except in extremely weak or debilitated persons. However, the leukocytosis may be moderate or even absent in the presence of overwhelming infection. Examination of the sputum both grossly and microscopically is as important as a differential and leukocyte count, and should be done routinely in all cases of suspected pneumonia. The characteristic sputum of lobar pneumonia is tenacious and usually at first blood-streaked as in a tuberculous hemoptysis; later it becomes brownish, rusty or prune juice in color, at which stage it is pathognomonic of the disease. Caution in obtaining the sputum for microscopic examination or typing is necessary, for, if one depends on sputum obtained by an untrained person it will usually be found to be valueless as it will contain mostly nasopharyngeal secretions, oral detritus and even food particles. Nevertheless, if the physician or trained technician gives the following instructions, a specimen will be obtained which shows the organisms responsible for the lung infections in what appears to be a pure culture: First, have the patient rinse the mouth with water and clean out the nasopharynx before coughing, and, second, always have the patient raise bronchial secretions. The pneumococci are easily differentiated from the streptococci and the staphylococci can be identified by culture or bile insolubility when necessary. Typing, when possible, should be done on all suspicious as well as positive sputa.

Another aid in the early diagnosis of lobar pneumonia is the roentgen ray. This diagnostic aid has been infrequently utilized because of the necessity heretofore of moving a very sick patient. However, today there are portable and mobile X-ray units that take good chest films with the patient in bed at a hospital or even at home. The X-rays reveal beginning consolidation very early in the disease, and, as in adults, the consolidation is at first central,[13] it is usually possible to pick up this pathol-

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ogy on a film before the physical signs can be detected. Films taken later show that the consolidation rapidly spreads toward the periphery, occasionally in as short a time as twenty-four hours. Graeser and others,[14] in a study of serial films on forty lobar pneumonia cases, found, however, three days to be the usual time before complete consolidation was established.

To summarize the facts in the early diagnosis of lobar pneumonia one should first remember that a positive diagnosis can only be made bacteriologically by the identification of pneumococci obtained from material from the lungs, from the blood stream, or from pleural exudates. Using only the clinical course, the early signs or even the roentgen ray, it is obviously impossible to select cases suitable for specific therapy; but one should remember that no other type of pneumococcus, except I and II, gives the typical signs of lobar pneumonia with the regularity these two do. The age of the patient is also an aid in clinically diagnosing pneumonia for which there is specific polyvalent therapy, as types I and II occur more frequently in the second, third and fourth decades. However, with the comparatively easy and rapid methods of typing now available, it should rarely be necessary to subject a patient to therapy needlessly.

Several methods for rapid pneumococcus typing are in use today. Each method has certain advantages over the other, and a brief review of them will be self-explanatory.

The Neufeld method is probably the easiest and most rapid. This test depends on the fact that the pneumococcus capsule swells when mixed with homologus rabbit antiserum. Fresh sputum should always be used in this test (not over two hours old). This method can also be used on fresh pus or positive blood cultures. Its technic is very simple: three flecks of sputum are placed on a slide and each is thoroughly mixed with one of three types of antisera and a dilute solution of methylene blue. A cover slip is placed over each to prevent drying and they are examined with the oil immersion lens. The presence of swelling in the capsule of only one pneumococcus is enough to make a diagnosis. This method is fairly accurate, and one can attribute most of the failures to poor sputum. Usual time for test is one-quarter to one-half hour.

The Sabin slide agglutination method is not so rapid but slightly more accurate, especially when the sputum specimen is poor or contains few pneumococci. About one-half cubic centimeter of sputum is made into a smooth consistency and injected into the peritoneal cavity of a white mouse. This animal is very susceptible to the pneumococcus and the pneumococci will outgrow other bacteria. After three hours, the peritoneum is punctured with a capillary pipette and a small amount of the exudate removed. This is placed on a slide in three small drops, each of which is mixed with the typing sera of one of the three predominant types of pneumococci. The smear is allowed to air dry, then is fixed with heat and stained by Gram's method. If agglutination is present, it is easily detected with the microscope and the bacteria will be clumped in small islands, whereas, in a negative reaction the bacteria should be evenly distributed over the field. Usual time for this test is three to four hours.

A third method, the Krumwiede, is rapid and accurate, but requires a large amount of fairly characteristic sputum. This test depends on the specific soluble substance of the pneumococcus, liberated when the sputum is coagulated Ten cubic centimeters of the selected sputum is placed in a centrifuge tube which is set in boiling water for five minutes in order to coagulate it. This frees the specific soluble substance which collects at the top after the whole mass is centrifuged, and can be withdrawn for use in a precipitation test. This test, while accurate, probably requires more technical skill as well as a large quantity of sputum, often very hard to obtain from a patient who has a pleurisy restricting his cough. Usual time for test is one-half hour.

The treatment of lobar pneumonia has been the object of a great deal of research and investigation for several years. Many methods have been tried, but each after a short while has been discarded when controlled experiments showed it to be of little value in lowering the mortality rate. Some are worthwhile and probably should be used in cases not suitable for specific therapy, but no one has shown any results with them comparable with specific therapy, and, they should only be used as a last resort in most instances. To evaluate these nonspecific methods is not within the scope of this paper; however, the following few will be mentioned: intravenous bile salts; diathermy; artificial

pneumothorax; hypertonic solutions of glucose intravenously; the introduction of substances to increase the leukocyte count, and oxygen and carbon dioxide inhalations. Of these, glucose and oxygen deserve the most use as they are of proven merit in the auxiliary treatment of all types of pneumonia.

In the specific treatment of lobar pneumonia, two antisera are of definite value, and a third for type seven is available; also, as more is learned about the clinical course of the group four pneumonias, antisera will be developed for the more virulent ones of these.

At present it is possible to identify and type every case of pneumococcic pneumonia, as all thirty-two types of diagnostic sera are available, but, as the mortality rate in the group four pneumonias is very low except possibly in types five and seven, other sera than these will be slow in developing.

Today, several reputable firms make type one and two monovalent and polyvalent antisera, refined and concentrated according to the method of Felton. This is dispensed in syringes containing 10,000 and 20,000 units each, at a cost within the reach of all except possibly indigents, and this cost is gradually being lowered.

After the clinical and bacteriological diagnosis has proven a case suitable for specific therapy, the patient should be tested with some of the antiserum that is to be used in the treatment, so that unfortunate allergic reactions will not occur. The most practical method for testing a patient is as follows: with a tuberculin syringe draw up about 0.2 of a cubic centimeter of the antiserum. Then, with a 25 or 26 gage needle, inject about 0.05 of a cubic centimeter intradermally into the anterior aspect of the forearm; following this, remove the needle and instill a drop into one conjunctival sac, taking care to observe both conjunctivae so that unilateral redness is not present before beginning the test. A positive skin reaction is manifested in twenty to thirty minutes by enlargement of the original wheal, with edema and a surrounding area of erythema. The presence of a positive skin test alone is not a contraindication to serum. It does, however, mean that care must be taken in giving the therapy and, if the ocular test also be positive, the patient should be desensitized.

Concerning the dosage of serum, it is well to state in the beginning that the exact amount necessary for successful therapy in every case is not known. This raises the question of how antipneumococcus sera brings about a premature crisis. It is known that the blood of all patients who recover from lobar pneumonia contains a definite measurable amount of protective antibodies, and recovery from the disease starts simultaneously with the appearance in the blood of these protective substances. Therefore, it is probable that the crisis of pneumonia occurs when a sufficient amount of these antibodies is either formed or injected into the body so that the bacterial products or "toxins" are neutralized. It thus necessarily follows that the sicker patients with the most toxemia and infection will require more serum than the moderately ill ones.

Following a negative test for sensitivity, 40,000 to 50,000 units should be given to moderately ill patients who have been sick no more than seventy-two hours, but, when their illness has lasted longer, this dose should be doubled. In very toxic and severely ill patients, one should give 80,000 to 100,000 units, and type two cases will be found to require more antiserum than type one. This amount of serum should be given intravenously within twenty-four hours, and the doses spaced as follows:

First dose, 5,000 units, or one-half of the smaller syringe dispensed by the commercial houses. This should be warmed and given very slowly with a solution of epinephrin handy.

Second dose, one hour later, 10,000 units, and the rest of the serum left from the first syringe, making a total of 15,000 units.

Third dose, varying from two to four hours later, 20,000 units.

Fourth dose, four hours later, 10,000 units, if the patient is improved clinically, or 20,000 if unimproved.

Following this, the general condition of the patient should be the guide to further therapy, as the clinical course and temperature are the best practical aids in determining when sufficient serum has been given.

From a review of the literature and experience with several hundred cases of pneumonia, the following conclusions are obvious:

1. Types I and II antipneumococcic sera are of proven value in the therapy of lobar pneumonia due to these two types of pneumococci.
2. The early diagnosis of this disease depends

more on alertness, than skill of the physician, and the therapeutic results are enhanced by early treatment.

The majority of acute lobar pneumonias in the young and middle-aged are due to types I and II pneumococci.

4. Typing methods are comparatively simple and easily carried out in a laboratory equipped for ordinary clinical work.

5. The intravenous administration of the specific antiserum is fairly easy, a commonplace medical procedure, and, with the concentrated products now available, reactions are few and of small moment when due precaution is used.

6. The cost of the serum, which has been considered prohibitive, is now reasonable, and, as this therapeutic measure is appreciated more, the increased volume of its production will further lower this cost.

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Medical Arts Building.

EPILEPSY AND ARTERIO-SCLEROSIS.*

ALFRED GORDON, M. D.,
Philadelphia, Penn.

In spite of the unusual amount of work done on the subject of epilepsy, we are far from a close approach with regard to the etiology and the nature of the diseased process. Efforts are being made in that direction from chemical, physiological and anatomical angles, without well-defined results. A psychological approach initiated with and based upon the accumulating knowledge in the field of the Freudian principles concerning compensatory manifestations in the place of emotional disturbances, has introduced a new conception of epileptic seizures, which is rich in valuable suggestions and possibilities. Nevertheless, the latter does not cover so far the entire field of epilepsy in all its phases and variations. Thus, the so-called organic as well as the psycho-pathological views have not answered all the questions concerning that mysterious and baffling morbid phenomenon called epilepsy. In a previous study some suggestive ideas were found in an endocrinic relationship of epilepsy at least in women in their period of maturity and involution, and beneficial therapeutic results have been obtained (*American Journal of Psychiatry*, March, 1933; p. 929).

*Read at the December meeting of the Philadelphia Psychiatric Society.

On the following pages another attempt is being made to envisage epileptic phenomena as manifestations of a progressive material damage to the motor cortex produced by progressive sclerotic changes in the cerebral blood vessels. It is to be emphasized that at no time in previous as well as in the present studies of the subject, the writer considered the data observed as exclusive etiological factors in the affection under discussion. However intricate the pathogenic content of epilepsy may be, its organicity in some cases cannot be ignored. One of these instances is found in advanced arterio-sclerosis. Within the last ten years quite a large number of arterio-sclerotic brains were examined by the writer and the life histories of some of those victims contained descriptions of typical epileptic seizures which made their first appearance at an advanced age. In twelve individuals out of a series of seventy-five who died from various visceral causes, death occurred suddenly or rapidly after apoplectic insult. Besides hemorrhagic or thrombotic foci which could explain immediate cause of death, there was found a multiplicity of yellowish spots over the cortex with predominance over the motor areas, some minute adhesive areas as evidenced from attempts to peal off the pia-arachnoid membrane. Small fragments from some of these pathological areas were examined histologically and cellular changes with regard to the shape, size, and to the nucleus were distinctly present. Infiltration of the walls of the blood vessels, peri- and end-arteritis, was found not only in the cortical but also in the underlying white substance. Similar alterations were found in the pia overlying those small cortical areas: the membrane over those spots was thick and adherent. Although these gross and microscopical lesions were present in a diffused manner, from one pole of the cerebrum to the other, the predominant number of foci of involvement were seen over both motor areas. The twelve patients, therefore, who during life developed generalized epileptic seizures at an advanced age presented cerebral arterio-sclerosis and pathogically areas of meningo-encephalitis particularly distributed over the motor areas.

In analyzing the clinical histories of the twelve cases, one finds the usual manifestations of arterio-sclerosis, namely, hypertension, headache, and particularly vertiginous attacks. As to the convulsive seizures themselves, nothing was wanting in the picture observed in epilepsies of any other origin. Sudden onset with unconsciousness, violent muscular contractions on one or both sides, followed by sleep, were all present here. Everyone of these patients presented transient attacks of mono- or hemiparesis with apparent complete recovery from each, but, when the epileptic seizures supervened, the paretic attacks ceased to appear. The ages at which the convulsive seizures made their first appearance were from fifty-seven to sixty-eight. They would occur only occasionally and five of the entire series expired in one of these attacks.

In our attempt to correlate the anatomo-pathological findings with the attacks of epileptic seizures we must admit that the isolated epileptic crises are due either to temporary circulatory disorders in the form of ischemia, produced by arterial spasm, so common in arterio-sclerosis, or to a sudden inflammatory flare-up in the small areas of chronic meningo-encephalitis which we found to be so abundantly distributed in the brains of the entire series of twelve cases. The inflammatory incidents can be easily conceived if we recall the experimental work of Schaeffer, who demonstrated cerebral embolism with paraffin. He noticed around the islets of softening thus produced the ordinary signs of inflammation, namely, an afflux of small young cells (Schaeffer, Etude expérimentale et anatomopathologique du Ramollissement cérébral, Thèse de Paris, 1910-1911). In the presence of such pathological findings it seems logical to view epileptic convulsions in arterio-sclerotic individuals from an organic standpoint. The pathological lesions observed in my cases, were, it is to be noted, of a disseminated distribution. They were found over the occipital, frontal and temporal lobes as well as ever the motor area. In a contribution entitled "Organic Epilepsy Considered from the Standpoint of Cerebral Localizations" (*J. Nerv. and Ment. Dis.*, v. 61; 1925; p. 142), and in another contribution entitled "The Pathologic Aspect of Some Epilepsies," a great variety of cerebral lesions, gross and miscroscopical, was presented by the writer. There were cases of tumors of the pituitary, hemorrhage in the occipital lobe, neoplasm of ponto-cerebellar angle, glioma of the angular gyrus and of the temporal convolution, dilatation of the lateral ventricles, ependymitis of the anterior cornu of the lateral ventricles, and fi-

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nally a pathological state of the choroid plexus. The conclusion to which all those cases lead is that a lesion of any portion of the brain may be accompanied by epileptic seizures and therefore may be considered as an epileptogenous zone. Irritation, inflammation or a damage of any portion of the intracranial contents, whether it is over the vertex of the cerebrum or cerebellum, at their base or in their interior, are apt to produce convulsive seizures with the same characteristic features as in the cases with a distinct lesion in the cortical motor area. Of course transmission of irritation to the motor cortex is a *sine qua non* in epilepsy, and this transmission is done through the association fibers, commissural and projective tracts which connect the motor cortex with various regions of the brain. It suffices to mention among many others the observations of Gowers, Prus, and Minkowski, to understand that the cortical motor area, by means of corticofugal tracts (cortico-spinal, cortico-mesencephalic, and others), contains a specific element for normal or abnormal movements and that the irritation had been transmitted to it through the complex tracts of corticopetal pathways. The first author observed a case in which epileptic convulsions disappeared on one side after an attack of hemiplegia. The second author suppressed convulsions by painting the motor cortex with cocain. The third writer (Schweizer, *Archiv. f. Neurologie u. Psychiatrie,* 1917, 1; p. 389) observed gross disturbances of motion after an experimental ablation of the cortical motor area. In view of all these data and in the presence of the diffuse parenchymatous lesions of the cells, of cellular infiltrations around the ending of the pia at the same levels, in view, therefore, of all the small islets of meningoencephalitis, one is more fortified in the assumption of the miliary sclerotic influence of the cerebral vascular supply on the development of epileptic seizures. However, a more critical analysis of the histories of individuals with generalized arteriosclerosis forces one to admit that cerebral arteriosclerosis, in which pronounced mental disturbances are present and are due to this arterial disorder, may not lead to epilepsy. There are arterio-sclerotic cases in which large areas of softening are observed and which during life presented gross symptoms of cerebral damage, such as hemiplegia, aphasia, etc., and still they were not affected with epilepsy. On the other hand, in the twelve cases mentioned four presented the same macro- and microscopical picture without epileptic manifestations during life. While one cannot escape from giving weighty consideration to the pathological findings in the brain which were apparently due to the sclerotic changes in the cerebral blood vessels, nevertheless one must admit that there must have been still another causative element in the epileptic manifestations. Is it a morbid predisposition or heredity? Out of the twelve patients seven presented histories either of alcoholism, saturnism, broncho-pneumonia and influenza of long standing. The latter two affections existed two and three months, respectively, before the onset of epilepsy. In the remaining five, I succeeded in tracing some members of the same generation, suffering from psychoses. Only one of the five brothers had epilepsy, and he died at a young age, and in another epilepsy was traced to the grandfather on the mother's side. None of the twelve patients gave a history of a severe trauma. The blood Wassermann and the spinal fluid were negative to lues. As to infections and intoxications, it is well known that they, *per se,* may produce cortical changes and consequently become the direct cause of convulsive seizures. As to the hereditary predisposition, the consensus of opinion is in favor of such an influence. Epilepsy and psychoses in relatives are not infrequently found in the medical antecedents of epileptic patients. Heredity in all such cases created presumably a functional exaggeration of the dynamism of the nervous system which, in presence of some organic lesions, will be transformed into epilepsy. Hereditary predisposition usually becomes manifest in infancy or in adolescence. Predisposition may remain latent for many years until some break in cerebral equilibrium takes place, such as acute or chronic intoxication (alcoholism, saturnism, or paludism), syphilitic infection, or, finally, when some organic disease of the brain (tumor, etc.) supervenes. All these factors create a profound disorganization of the cerebral equilibrium. The latter leads to a progressive development of mental deterioration, or, as in our cases, to epileptic seizures. Summing up the entire situation, we find that in addition to evident organic elements, as proven by histological studies, there are other factors which played a certain rôle in the epilepsy of our twelve patients.

The additional circumstances complicate, therefore, the pathogenetic problem of epilepsy. Whatever part these circumstances had in provoking the attacks of epilepsy, the unalterable fact remains that minute anatomic and histologic lesions were found widely distributed over the cortex, which were intimately associated with sclerotic alterations of the blood vessels in an advanced age. One cannot escape from the position of an organic substratum of epilepsy in cases of cerebral arterio-sclerosis. One is reminded of the postulate of Lasègue enunciated many years ago, namely: "Epilepsy which makes its first appearance after the age of eighteen, should be considered as due to a lesion in the encephalon (*Arch. gén. de Médecine*, 1877)."

1812 Spruce Street.

ANEMIA—AN APPRECIATION.*

JOHN R. HAMILTON, M. D., F. A. C. P.,
Nassawadox, Va.

There will be no effort made to discuss the classifications of anemias. To me each case of anemia represents a human being who, for some reason or other, has not as much as he should have of one or all of the blood elements. Therefore, all anemias are secondary to the cause of the anemia in the same sense that the temperature, the rose spots, and the enlarged spleen in typhoid fever are secondary to the successful invasion of the body by the typhoid bacilli. When the cause of each anemia has been discovered, we can build a foundation on which to base the management of each case. In the meantime, the present classifications with their varied ramifications are indispensable in our handling of these cases.

Anemia, diversified as are its clinical manifestations, varying its role from cause to effect, and at times playing a mixed role, has, therefore, multitudinous relations to the patient. The presence of an anemia may be first hinted at or revealed during the course of a successful history. A physician may use splendid mechanical diagnostic devices and show great skill in a physical examination, but adequate, skilled history-taking is and will remain indispensable to the handling of these cases. Never is skill more tried than when two human beings, the doctor with his desire to help and the patient with his desire to be helped, sit facing each other to discuss the deviations from normal of the most valuable thing in life, health. They are two separate individuals probably with unlike personalities, different heredities, environments, and opportunities. Yet the physician makes every effort to put himself in the patient's place, feeling as he feels, adopting his outlook on life, seeing the objects as they appear to him, separating the chaff from the grain, and doing all this within time limits that are practical. Glorious as are the endeavors in the many branches of the art and science of medicine, this taking of the history equals in importance many of them. Sheepishly I have looked back, and maybe you have, and realized the missed diagnosis or the irrational treatment due to the poor, the misunderstood, or the misinterpreted history.

Let me illustrate with a few cases in which the histories were important.

The first case: a white farmer of 67, seen in March, 1933, complaining of shortness of breath on exercise and excitement, severe to the extent that he had been unable to work for two years or to supervise work for several months. In taking his G. I. history the information was obtained by direct, detailed questioning that for thirty to forty years he had had bleeding from the bowels and that for fifteen years he had noticed dropping of bright blood on many of his stools. With the physical and laboratory findings that were added to this, a diagnosis of secondary anemia and hemorrhoids was made; the patient's† Hb. by the Sahli method, which is used throughout this paper, was 38 per cent, the red cell count 3,212,000, and color index 0.59. He was placed on local care of the hemorrhoids

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†The hospital cases were in the Northampton-Accomac Memorial Hospital, the laboratory work being in charge of Mr. A. A. Shanks.

and medical care of the anemia. One month later, the patient was symptomatically improved, the Hb. being 60 per cent, the red cell count 4,284,000, color index 0.71. A local hemorrhoidectomy was done by Dr. Denoon. The patient's improvement has been uneventful and he is now doing his usual amount of work. The Hb. and R. B. C. were normal the last time he was examined. This patient never once voluntarily mentioned or considered his bleeding, and was hard to convince that it could have any connection with his disability.

The second case: a white, single female, was seen in March, 1931, with pain in the right hip and knee of two months' duration. The detailed history revealed no significant findings. The laboratory work showed a Hb. of 24 per cent, R.B.C. 1,688,000, color index 0.75. The physical examination disclosed a fixed, firm, non-painful mass the size of an orange in the left breast; the nipple was retracted and large; firm glands were found in the left axilla and left supraclavicular spaces. These findings were confirmed by Dr. W. C. Henderson in consultation. The diagnosis of carcinoma and secondary anemia was made. This history did not reveal the fact that the patient had had two sisters to die of cancer of the breast. Later the patient stated that she had known of the mass for some time but gave no definite date of discovery and stated at the same time that surgical treatment would not be considered by her. The patient died six weeks later.

The third case: a colored, a single female of 19, seen in consultation with Dr. H. L. Denoon on April 28, 1934. The diagnosis of anemia, pyelitis, and pelvic inflammation had been made with pregnancy suspected. The patient absolutely denied to us and to the family this possibility. Treatment was carried on to improve the condition of her blood (details of which will be discussed later) and the pyelitis and pelvic inflammation were treated. After several weeks of study the diagnosis of pregnancy became undeniable and, with the patient's condition desperate, an attempt was made to induce labor; but the patient died a few hours later without labor beginning. I feel that this patient's holding back the causative factor in this history played a definite part in the loss of her life.

The physical examination holds the same two-fold attraction for the physician as does the history—both the chance of finding the anemia and also the cause in certain cases. For these reasons, the examination must be searching and the physical findings carefully and skilfully interpreted.

Paleness must be differentiated from anemia. The light which one has available at the time of the examination must be considered. One must have sufficient light and exposure of the field examined to see clearly. Important findings may be a slight perforation of a nasal septum, diseased tonsils, teeth that justify dental consultation, edema, the pulse, the weight. Seeing what the patient expectorates or defecates is of more value than hearing him tell about it. Proper laboratory work further enhances the diagnostic value. The wavy heart impulse; the wide pulse pressure; the glandular enlargement or changes in consistency; the mass in the abdomen, be it fecal matter, cancer of the stomach, distended bladder, or pregnancy; local tenderness at any point; seeing the penis,—all are important. The prostate must be felt, the cervix seen, the bimanual done, the rectum carefully examined, and the reflexes checked. These are some of the items in skimming briefly the surface of the important portion of the work-up,—a careful physical examination, intelligently interpreted.

Now let us look up the third converging pathway that also may lead towards the disclosure of an anemia and at times of the cause as well—the laboratory work. To us who daily come in contact with the sick, I fear that at times laboratory work takes on a time-consuming, costly, almost mystic role which hides its true value. Through the organization of society which we have set up to live under and support, our government, there are available certain laboratory facilities paid for by the people through the maintenance of that government. By this means certain causative factors of anemia may be investigated. The stools may be sent for ova examination and cultures, the blood for agglutination tests and Kahn reactions, as the need is felt indicated by the physician.

The following portion is not addressed to the physician whose practice justifies a technician or who is located with a group large enough to have at their disposal satisfactory laboratory facilities furnished by a qualified technician. The following is what I consider the irreducible minimum of laboratory equipment which each physician should have in the handling of "every day," work-a-day world

anemias: a Sahli hemoglobinometer or other type if preferred, a microscope, a counting chamber, diluting fluids, slides, Wright's stain, and a very few feet of space set aside for a laboratory. He also needs that equipment necessary to do a urinalysis. Later, as interest increases, may be added gastric analysis equipment and occult blood tests. The cost of these is not prohibitive and the use of them can be learned or recalled with the aid of a textbook on laboratory technique. The time used is just as valuable as that taken to do the physical. We find now that we have available a very helpful agent in the color index which portrays mathematically the proportion of the Hb. and the red cells to each other. Add to these an adequate study of the stained smear and a satisfactory amount of laboratory work is available.

Take these three, the history, the physical, and the laboratory work, and, fourth, enough time to evaluate and consider what they present. The anemia can be determined, its type established, and, often, its cause ascertained. Then and not until then can we turn our attention to treatment.

In discussing treatment, pernicious anemia will be considered first. It is my hope that pernicious anemia will soon be clearly recognized as a secondary anemia. That is to say that the cause of pernicious anemia will be as definitely known as is that of the anemia which occurs as the result of prolonged bleeding from hemorrhoids which is already accepted as secondary. A definite step has been taken by Strauss and Castle[1] who postulated that pernicious anemia is due to a specific reaction between an extrinsic dietary factor and an intrinsic factor present in normal gastric juice. From this or other theories now postulated or yet to be brought forward, definite knowledge of the cause of pernicious anemia will probably be evolved which may be the basis of an entirely new treatment. But for the present, Murphy[2] offers the most rational answer to the question of how to treat pernicious anemia. To quote: ". . . for the patient who has no difficulty in consuming adequate amounts of whole liver either raw or cooked, one need hardly encourage the use of any substitute for it. There are, however, patients who find difficulty in doing this. Fortunately for such individuals there are now substitutes for liver which may be used with entire satisfaction. These substitutes are available for peroral or parenteral use. Of course the treatment of each case is individual and must be selected and changed as indicated; and must also contain such accessory treatment as that individual case requires."

The following two cases of pernicious anemia are presented to illustrate the points stressed.

The first case: referred by the late Dr. S. S. Kellam, a female of 57 years, seen in September, 1931. She had been ill with a "cold" for a week. Her only complaint when seen was fatigue. The history brought out the fact that in 1911 when a physical examination was made it was discovered that she had achylia and was placed on dilute hydrochloric acid. She also stated that her extremities felt as though the circulation was cut off and that they were asleep. The examination revealed a yellowish tint to the skin wtih the sclera bluish white in color. Mucous membranes did not appear unusually pale. The laboratory report showed a Hb. of 60 per cent; R.B.C. 2,850,000; and color index 1.07; smears study showed marked anisocytosis; W.B.C. 2,800; P. 55; L. 45. The patient, because of a dislike for liver, was placed on Lilly's liver extract No. 343, dilute hydrochloric acid, and a general diet. She was placed in the hospital for one month. On discharge she was symptom free except for paraesthesia of the extremities. The skin and sclera were average. The laboratory report showed a Hb. of 92 per cent, R.B.C. 4,492,000, and color index 1.04. She has been following her usual occupation and has remained under medical supervision and continued on maintenance doses of substance containing the active principles of liver. When last seen she was taking extralin.

The second case: referred by Dr. James Doughty, a white woman of 65, seen in June of 1929. The patient gave a history of chronic illness which had gradually gotten worse for the past three years; the complaints being biliousness, uneasiness in the chest, nausea, stiffness of the ankles, and from time to time had been jaundiced. The physical examination showed a faint yellow tint to the skin. The mucous membranes were pale. A marked systolic murmur was found at the apex transmitted into the axilla. There was moderate edema of the legs. The laboratory work was as follows: Hb. 27 per cent; R.B.C. 1,072,000; color index 1.35; the smear showed marked anisocytosis and poikilocytosis; W.B.C. 2,800; P. 65 per cent; L. 35 per cent; gastric

analysis showed no free hydrochloric acid. The patient was placed on a half pound of liver daily, liver meal in milk three times a day, dilute hydrochloric acid, and general diet. She remained in the hospital two weeks and improved greatly symptomatically except for the paraesthesias of the legs. The systolic murmur lessened markedly in intensity. The edema of the legs disappeared. The laboratory report showed Hb. 55 per cent; R.B.C. 2,184,000; color index 1.3; smear study not recorded; W.B.C. 8,200; P. 76; L. 24. The patient made a complete, uneventful recovery at home except for the paraesthesias. Because of the monotony of medication she has been on liver, liver meal, and ventriculin. The achylia treatment was changed to include elixir lactated pepsin and for periods she has been given gastron. When last seen her blood picture remained normal. She is doing her own housework but still complains of the paraesthesias of the legs.

The intravenous and intramuscular administration of liver in cases of pernicious anemia has occupied increasing space in medical literature during the last several years. I have not had an occasion to use these forms. As to the efficacy of these forms of treatment I shall quote from an abstract of an article by Kniskern and Christian:[3] "During the past year investigators have shown that liver extract is much more potent, gram for gram, when injected intravenously or intramuscularly than when given by mouth in pernicious anemia. The injection treatment should replace transfusions unless the patient is in extremis. It is particularly valuable in cases with pathological or functional disorders of the gastro-intestinal tract which render uncertain the absorption of oral substances. It is cheaper and more pleasant to take than treatment by mouth. Liver extract has been found to be thirty to fifty times more potent when injected than when given by mouth. . . . The intravenous or intramuscular method of administration is equally effective. American products are not sufficiently purified to permit the administration of adequate dosage intravenously without reaction, unless frequent small injections are given. The English product is more highly purified. The new concentrated product of Lederle may be given intramuscularly with very little local reaction."

In the secondary or hypochromic anemias, accessory treatment is valuable in preparing the patient for the removal of the cause of the anemia and in hastening and facilitating the convalescent period; also in those cases where the cause cannot be discovered, or where one or more of the accessory factors is the cause. The well known and discussed accessory agents which I have employed are: iron, ventriculin, liver extracts, and various preparations containing one or more of the above in combination with other ingredients; general diet in keeping with the basic condition of the patient and containing all the food elements; adequate rest, relaxation, fresh air, and sunshine; supervised exercise; transfusions; care of constipation if present—each as applicable to the individual case.

A quotation from Dr. Warfield[4] when writing on another subject is also applicable here: "No experimentation is more difficult than that in the clinic on human subjects. Control cases exactly similar to those treated in any special manner are not possible to secure. By the omission of the special treatment in alternating cases approximate control series can be obtained, but such alternate cases are not true controls. Further, the human being is so constructed that one gets well in spite of what is done, another dies in spite of what is done. Yet there should be principles of proper treatment and it is to these principles that we now turn."

In searching for these principles, allow me to quote from the eminent authority on anemias, Dr. Murphy:[2] "Rational treatment can hardly include combinations of liver extract, ventriculin, copper, vitamins, etc., together with iron, as there is not yet evidence to indicate that such combinations are more effective in the anemia of man than the iron contained therein, and they are less palatable and invariably many times more expensive." He further states: "For hastening the improvement of the blood, and especially the patient's general physical condition, an intramuscular injection of 3 c.c. (prepared from 100 gm. of liver) of concentrated liver extract (Lederle) at intervals of five to seven days, with peroral use of iron is to be advised."

To quote from Vaughan's[5] recent book on the use of copper: "Mills (1931) and Adamson and Smith (1931) believe that in some cases iron is only effective if copper is added in the proportion of 1/48 of a grain of copper carbonate to 30 grains of Blaud's mass, and that such an addition always improves the effectiveness of iron." The author

continues: "Copper is worthy of trial in any case that does not respond to iron, but such cases appear to be rare." In regard to the giving of hydrochloric acid, Vaughan states: "Since Mettier and Minot (1931) showed that iron was more readily absorbed from an acid than an alkaline medium, the administration of hydrochloric acid might on theoretical grounds be considered helpful. Though it may improve digestion there is no real evidence available to suggest that it is necessary." In my limited experience I have found that chronic secondary anemias respond well if, in addition to adequate doses of iron, ventriculin is given as the P. A. factor containing drug, at least to start with. This, I believe, is in agreement with Minot's using liver extract intramuscularly to obtain the P. A. factor.

Iron, time tried and proven valuable, is a weapon on which we can place dependence. The form, the dose, and how it acts, are, have been, and probably will be for some time a subject for investigation. Why it takes the large doses which it does take to produce maximum results with the iron content of the body estimated at 38 grs., I do not know. Whether the iron is absorbed directly, whether it sets free food iron to be absorbed by forming sulphides with the iron given, or whether it stimulates the mucous membranes to absorb iron, I am not in a position to say. But I do know that iron in large doses is of distinct value. From the introduction of Blaud's pills a little over a hundred years ago, the dose has varied from generation to generation as has the dose of other forms of iron. Personally I find Blaud's from 60 to 90 grs. per twenty-four hours, or iron and ammonium citrate grs. 45 to 60 per twenty-four hours adequate.

The following cases are quoted, not with any hope of covering the entire field of secondary or hypochromic anemia, but to further practically stress the points which have been emphasized.

The first case: seen in consultation with Dr. H. L. Dencon; a white female of 26, an obstetrical case which had been delivered two weeks before of a normal baby. The history showed that the patient had pyelitis during pregnancy which had necessitated bed rest and medication. A week after the delivery she began a septic temperature. The catheterized specimen of urine was loaded with pus. The physical findings showed a patient acutely ill and pale looking, with mucous membranes moderately pale and kidney angles slightly tender. The laboratory work, done the day before the consultation, showed Hb. 56 per cent; R.B.C. 3,824,000; color index 0.7. This decrease in Hb. and R.B.C. had occurred since the return of the pyelitis. The treatment for the pyelitis was continued and, as the nausea decreased, the patient was placed on lextron capsules, one after meals and at bedtime. The reason for this choice of medication was that for two days prior to the consultation she had been tried on iron and ammonium citrate in a liquid prescription and liquid Blaud's, respectively, both of which were too distasteful to take. Liquid medication had always been unpalatable. She felt that capsules would be preferable to pills. The small dose of lextron was given because the patient felt that more than one capsule would nauseate her. The temperature became normal in a week and she was discharged in two weeks. Urine continued to contain pus. The Hb. a week after the consultation was 65 per cent; R.B.C. 3,852,000; color index 0.85. The patient was sent home with a prescription for Blaud's pills, gr. 15 to be taken after meals. When seen six weeks later, Dr. Denoon reported the urine negative and no sign or symptoms of anemia. To me the fighting wedge against her anemia was pyelitis. I believe that, while it might have been unwise, iron medication could probably have been dispensed with. At least we may say it was an accessory to the main line of attack.

Second case: a white married female of 21 who came for a general examination. When beginning a series of treatments for acne it was discovered that the patient was anemic and complained of an unusually tired feeling. This led her physician to request the examination. This history taken in April, 1934, gave her complaints other than the acne as being tired, sleepy, constipated, overworked, and an absence of menstruation for ten weeks. Examination showed moderately pale mucous membranes and the presumptive signs of pregnancy. The laboratory work gave a Hb. of 74 per cent; R.B.C. 4,000,000; color index 0.9; smear study normal. She was placed under the care of an obstetrician; acne treatments were continued; adjustments in living were made so that work fitted in with her condition; constipation was treated; and the patient was placed on lextron capsules, three after meals, for one month. At the end of that time her symptoms

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had markedly improved; her Hb. was 80 per cent; R.B.C. 3,500,000; color index 1.1; smear study at this time showed mild ring formation. Medication was changed for the next month to Blaud's pills, four after each meal. At the end of the period the patient remained symptom free; her Hb. was 90 per cent; R.B.C. 4,000,000; color index 1.1. Blaud's pills were discontinued. In this case I believe the treatment of the anemia, while not spectacular, may have stayed the development of a serious anemia; and increased the oxygen-carrying power of the blood at an opportune time.

In regard to the care of obstetrical cases from an anemia standpoint, I will read from an abstract of an article by Davis and Walker:[6] "This subject does not receive the attention that it deserves, in spite of the fact that a patient with anemia is definitely less fit to undergo the strain of labor. Relatively few women go through pregnancy in the care of a physician who routinely makes blood counts and hemoglobin determinations.

"Anemia in pregnancy is either typically secondary or of a type resembling pernicious anemia. None of the latter type were seen in this study. A patient was classed as anemic when the blood findings were below the lowest limits of normal: hemoglobin 75 per cent and red cell count 3,500,000. In a group of 161 cases examined, 43 per cent showed an anemia; if border-line cases are included, the percentage of anemia rises to 56 per cent. These cases were examined in the summer and early fall and were used for the untreated group. The treated group was selected in February and March and was chosen from a group of 133 patients of whom 90 per cent had anemia.

"The percentage of primiparae and multiparae in both groups was practically identical, but in the untreated group there were twice as many with elevated blood pressure, most of them being of the pre-eclamptic type, and there were almost five times as may premature deliveries. There thus was an increased fetal mortality in the untreated group. Temperatures of 100.4 or over for twenty-four hours were recorded in 27.9 per cent of the untreated group, and 11.2 per cent of the treated group.

"The average length of labor in the primiparae was 22.8 hours in the untreated group, 15.6 hours in the treated group; in the multiparae, 13.4 and 11.1 hours, respectively."

The third case: the credit for which goes largely to Dr. W. J. Sturgis, Jr., then a student interne in the Northampton-Accomac Memorial Hospital, was seen in June, 1933, by the surgical service with a severe secondary anemia following an incomplete, self-induced abortion. The patient was a white, married female, 28 years old, who had been passing clots for approximately one month. Chief complaints were pain in head and eyes, and shortness of breath. Examination revealed paleness of skin and mucous membranes, weakness, and uterine bleeding. Laboratory work showed a Hb. of 30 per cent; R.B.C. 1,136,000; color index 1.36. A D. and C. was done the morning following admission by Drs. Denoon and Henderson. The next day she was placed on Blaud's pills, gr. 10 every two hours from 6 A.M. to 10 P.M., making the dose 90 grains daily. Added to this ½ mgm. of copper sulphate was given three times a day. Because of the difficulty in obtaining a donor, a small transfusion of citrated blood could not be given until the fourth day after admission. Two days following the transfusion the Hb. was 38 per cent, the R.B.C. 2,352,000 and the color index 0.82. She was continued throughout her hospital period of twenty days on medication as stated and a general diet. Eight days after the transfusion the Hb. was 55 per cent, the R.B.C. 3,232,000, and the color index 0.99. Fifteen days from the transfusion the Hb. was 68 per cent, the R.B.C. 3,464,000, and the color index 1.0, at which time the patient was discharged. This case represents one of the many where the cause of the anemia is discovered and corrected, and with the transfusion and the administration of adequate doses of iron makes an uneventful recovery.

Contrast with with the case mentioned in the first of the paper, the colored female of 19, with pyelitis, pregnancy, pelvic inflammation, and secondary anemia. On her admission her Hb. was 47 per cent, R.B.C. 2,624,000, and color index 0.9. For the six days of hospitalization before being seen in consultation, she had been on 20 grs. of Blaud's pills after each meal, 60 grs. a day. To this treatment was added 3 c.c. of liver extract (Lederle) intramuscularly once weekly. The attack against the infection in the G. U. tract continued. Seventeen days following her admission her Hb. was 33 per cent, R.B.C. 2,016,000 and color index 0.8. At this time a transfusion of 250 c.c. of citrated

blood was given. One had not been given sooner, nor were more given because of the difficulty in obtaining donors. The day following the transfusion the Hb. was 34 per cent, R.B.C. 1,856,000, and color index 0.94. The extract given intramuscularly and Blaud's pills were continued throughout the treatment. The urine remained loaded with pus and the patient died as stated on her twenty-fifth day of hospitalization. The determining factor, I believe, in this case is that we were unable to control or eradicate the underlying cause of the condition which was the pregnancy.

It would not be fair even in this scanty appreciation of anemia not to mention the hypochromic or secondary anemias of infants. To quote from Vaughan:[5] "The onset is gradual. It is more common in premature infants and those small at birth. Inquiry into the early history is important. Susceptibility to infection is a marked feature. A history of recurrent or chronic colds, diarrhea, enteritis, etc., is suspicious. Mackay (1931) found that anemic infants had a morbidity rate twice as great as those given prophylactic treatment."

The next two cases will be quoted briefly and their review confined to the treatment of the anemia.

The first: a white female, 70 years old, suffering with rheumatoid arthritis. On October 8, 1934, her Hb. was 55 per cent; R.B.C. 2,480,000; color index 1.14; smear study showed marked anisocytosis and occasional poikilocytosis. Her medication consisted of 30 gms. of ventriculin and 30 grs. of Blaud's pills daily with a well-balanced diet. The choice of this combined medication was based on the chronic type of anemia, the color index and the smear study. On October 16, 1934, one week later, her Hb. was 72 per cent; R.B.C. 3,364,000; smear study showed occasional poikilocytosis only; color index 1.1. Ventriculin was at this time discontinued and the iron medication continued. On November 2, 1934, twenty-five days from starting the treatment, her Hb. was 92 per cent; R.B.C. 4,272,000; smear study showed slight anisocytosis; color index 1.1.

The second case: a white female, 42 years old; referred by Dr. Critcher and seen in consultation with Drs. Denoon and Henderson. Patient had uterine bleeding due to a fibroid uterus. On November 14, 1934, her Hb. was 40 per cent; R.B.C. 2,292,000; smear study showed marked poikilocytosis and anisocytosis; reticulocytes were absent; color index 0.9. She was placed on ventriculin 30 gms. and Blaud's pills, 40 grains a day. Bleeding was controlled by medical treatment. On December 7, 1934, twenty-three days later, her Hb. was 58 per cent; R.B.C. 3,824,000; moderate poikilocytosis; slight anisocytosis; reticulocytes numerous,—showing the producing power which the bone marrow had gained. The patient was sent home for one month and was continued on treatment; being given ventriculin with iron, 20 gms. daily. On returning to the hospital thirty-one days later or fifty-four days from the beginning of treatment, her Hb. was 91 per cent; R.B.C. 4,880,000; smear study showed slight anisocytosis; color index 0.95. Patient was at this time operated on by Drs. Denoon and Henderson and had an uneventful post-operative period.

It has been my aim in this paper to stress the importance of finding the cause of an anemia, showing how the history, the physical examination, and the laboratory work help toward determining this factor. The treatment indicated is the eradication of the cause where possible, liver or its equivalent in pernicious anemia, and iron in the so-called secondary type; liver or ventriculin are added in certain cases when indicated, with well-balanced diet in both, and other treatment as the individual anemia indicates. I hope I have brought out the double capacity of an anemia, enabling it to be cause, or effect, or a combination of both, playing behind the disabled patient, a paradox within itself.

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XUM

A PLEA FOR BIRTH CONTROL

ALLEN H. MOORE, M. D.,
Doylestown, Penn.

The problem of Birth Control, linked as it is with the population problem, is one of the most interesting of the modern age. Academically, at least, it has been a moot point ever since an obscure English clergyman, the Reverend T. R. Malthus, published his essay on "The Principles of Population" in the year 1798. It was his theory that "the chief cause of human strife and misery lies in the constant tendency of mankind to increase beyond the means of subsistence."

It is generally estimated that one-third of all pregnancies are interrupted. It is an anomalous fact that the New York State Department of Health warns women, in a circular which it distributes, that frequent and close pregnancies predispose mothers to tuberculosis; yet that same Department of Health is debarred by law from giving information which would enable a woman to avoid too many pregnancies until after she has developed the disease. It would appear that any sound program of preventive medicine would have to include birth control. We are told by a large number of social reformers that "self-control," not "birth control" is the solution of all evils attendant on marital relationship. It is apparent that "self-control" is hardly a solution for the many women who have no choice but to yield to their husbands if they want to maintain harmony in the family, nor for women who love their husbands too much to deprive them of what they seem to need. It must be remembered that in a number of states refusal of conjugal rights constitutes grounds for divorce. Dr. William Allen Pusey, formerly President of the American Medical Association, stated that sexual life is the elemental fact upon which satisfactory family life, as a rule, depends, and that without satisfactory sexual life, marital life as a rule is irreparably damaged.

In view of the evident need for birth control, our medical profession has been curiously apathetic in its attitude towards the problem. Doctors have not feared the hand of the law so much as they have feared that if they took the initiative in advising their patients as to contraceptive methods they would be labelled as "sex-minded" and classified professionally with the abortionist. That the terms birth control and abortion should still be confused by the laity seems incredible. It is hard to believe that doctors can be cooly indifferent to their patients' welfare; yet there are doubtless many like the one of whom a woman patient wrote, "I have asked my doctor, oh! so many times, to tell me something to do to prevent conception, but he won't tell. It is easy enough for him to say, 'now you take your life in your hands if you have any more children.' "

The American Birth Control League was organized by Mrs. Margaret Sanger, in New York City, in 1917, the first Birth Control Clinic in this country. Birth control is a factor in the preservation of the stability of the nervous system. Recuperation on the mother's part depends on the proper spacing of her children. It seems fairly evident that mentally deficient persons whose social adequacy is precarious should not run the risk of reproduction. Apart from the possibility of the inheriting of their condition, the added burden of rearing children would jeopardize their success in the community. Moreover, as parents, they would be able to provide only a deficient environment, and that handicap should not be visited upon any child whether mentally deficient or not.

Birth control is a conscious adaptation to a changing environment. Paradoxical as it may seem, a few thousand years ago living was simple but life was hard. Both of these made for free and prolific breeding. Life was simple. Man's wants were few. Land was free and food and drink was what nature gave. There was no reason for any man to limit his offspring. Prolific breeding was necessary to preserve the race. As civilization has advanced, life has become harder but living has become easier. The conditions are getting to be exactly reversed. With this reversal of conditions, man must change his habits of breeding.

Spacing children means the planning of each conception and pregnancy with a view to the best time and season, both for mother and child. Even with

a healthy mother and a sound inheritance of bodily and mental endowment on both sides, too frequent and too numerous pregnancies are to be avoided, as undermining to the mother's health and as taking her from the care of her living children. When the mother is not entirely well, and the endowment not of the best, spacing and limitation are the more necessary. Economic considerations enter into nearly all cases, and in families where the mother must work outside the home, the questions of number and interval are most acute. In each pregnancy that may be contemplated, and in all kinds and conditions of society certain factors are involved, such as the age of the mother, and to a lesser degree the age of the father; the mother's general health, present and past; the time since the last delivery or miscarriage; the sort of pregnancy and delivery she has experienced and the total number of children that are deemed desirable and which can be adequately reared. The best period for child bearing appears to be between twenty and thirty-five.

Bitter has been the contest and loud the argument between the opponents and advocates of birth control in America. While they have argued, the United States has ranked twenty-third in the maternal mortality rate among the civilized nations of the world. Such a disgraceful condition calls for the mobilization of all people who are interested in the lives of mothers now needlessly dying in America. Women who face the grim hazard of motherhood have a right to be taught the knowledge which will permit them to choose the time and circumstance of their own childbearing. On religious grounds many believe birth control is sinful. Others deplore it because if three mothers had known and believed in it, there wouldn't have been any Caruso, Carlyle or Napoleon. Common sense suggests there is no reason why a mother should have a baby if she doesn't want it. And no reason for allowing a rich woman, with a competent doctor, to know all about birth control, while making it a crime to inform the poor, for whom extra children mean extra burden and trouble.

The Clinical Research Bureau, of New York, reports that among 10,000 married women, 5,010 had an average of more than two abortions each, before they secured advice in spacing children. In Philadelphia one charitable hospital states that of 774 women admitted to the gynecological wards 367 came because of attempted abortion. The White House Conference on Child Health Protection estimates that there are 700,000 abortions each year in the United States, due primarily to economic inability to care for the living children.

The Federal Children's Bureau, in case studies of 7,500 maternal deaths, reported that 1,875 were due to abortion. The New York Academy of Medicine found that abortion caused 350 among 2,000 maternal deaths. In each report 75 per cent of the interrupted pregnancies showed convincing evidence that the abortion was intentional. Nine-tenths of all these women who died left orphaned families.

Birth control can and does prevent the anguish and despair that drives mothers to the dangerous act of abortion; the death of many mothers and the life-long illness of many more; the loss of a mother's influence to thousands of growing children; a growing burden on our hospitals and the increased responsibility of our social agencies.

The number of criminal abortions is more than double the number of normal births. The fear of unwanted pregnancy does more psychic damage than do all the reactions against preventives. The chief considerations on the part of the man who practices contraception are usually those concerned with the health and happiness of his wife and with his ability to take care of the children. Whatever the reactions of a man to the conditions of abnormal contraceptive practices may be, they are usually not nearly as powerful as the dread of seeing his wife enter into pregnancy which he knows, or feels she cannot endure, or to see his family grow beyond his ability to provide for. Thus the haunting fear that his wife will suffer, or that she will have more children than he can provide for, will do more to upset the health of the average man than can any likely contraceptive practice.

The enslavement of maternity and the fast-swelling stream of the unfit present a compelling motive for remedial work. Unfortunately, maternal and foetal mortality is associated in the mind of the public, and also in the minds of a good many physicians, with the sex taboo—a barrier which effectually restrains in this vitally important field those humanitarian impulses which are operating so spontaneously and gallantly in the fight against plagues and some other agencies of death. There is probably no field more promising for the promotion

of health and human happiness than that concerned with the control of conception. The desirability of controlling conception is being appreciated by physicians in increasing numbers. Many of them, indeed, have realized their responsibility in this matter, not only on account of the widespread use of contraceptive measures of one kind or another among intelligent married people in the United States, but also because of the obvious advantages of placing at the disposal of patients who seriously need contraceptive advice those methods which are safe, simple and satisfactory, thus protecting needy women from quackism, charlatans and commercial exploiters who may provide measures that are both useless and dangerous. The desirability of preventing pregnancy among cardiac, pulmonary, renal, diabetic patients and also toxic goiter patients, is frequently discussed among physicians but too often neglected until mortality and morbidity stalk abroad with its terrible tragedies.

It is indeed absurd for one to say, "I advocate large families" or "I advocate small families," without reference to conditions in individual cases. These arbitrary statements can never meet with the approval of the majority of thinking people. While it may be desirable for some families to be large, it would certainly be a calamity for others.

It is not only our right, it is our duty, or rather one may say the natural impulse of every rational and humane person, to seek that only such children may be born as will be able to go through life with a reasonable prospect that they will not be heavily handicapped by in-born defect or special liability to some incapacitating disease.

To build an ever-increasing number of hospitals, asylums for lunatics, idiots and incurables, reformatories and other havens of refuge; to provide them with every comfort and manage them scientifically, is undoubtedly a very fine thing, and speaks well for the progress and development of human sympathy. But what is forgotten is that, by concerning ourselves almost exclusively with human ruins, the results of our social abuses, we gradually weaken the force of the healthy part of our population.

There is no doubt that public opinion is gradually favoring limitation of families. What all women are longing for is that they shall have only enough children to rear properly and decently. There is no fact better established than that a man can transmit only that which he is. If his system is weakened by excess or tainted with disease, he can beget only physical weakness or beings tainted with disease. The syphilitic, the consumptive, the epileptic, the alcoholic, should not produce his kind merely to be the offerings as wards on human society with its unlimited burdens. Every child has a right to be well-born, and parents who are not able to take care of them after they have come should not bring children into the world. How can one sincerely sanction the imposition of excessive maternity on any woman? Thank God that there are relatively few people of an intelligent society who deliberately allow such maternal imposition. I am convinced that the birth control movement is the most intelligent and scientific charitable and philanthropic enterprise now functioning in the field of altruistic endeavor.

Generally speaking, what is the object of having increased population when the country is not able to care for its present inhabitants and, without definite financial sacrifice, and in the last analysis, what is the advantage of mere numbers?

106 East State Street.

FOREIGN BODY AROUND PENIS—WITH CASE REPORT.*

P. G. Fox, M. D.,
Raleigh, N. C.

The literature contains numerous case reports of foreign bodies around the penis, such as hair, strings, rubber bands, rings, bottles, automobile bearings, etc. These agents tend to produce strangulation of the penis and its results may be disastrous.

The diagnosis in these cases is self-evident, but it is the removal of these bands that may prove to be baffling and tax the ingenuity of the physician.

It is necessary to remove the cause as soon as possible and with as little trauma, for one must remem-

*Read before the Seaboard Medical Society, at Kinston, N. C., December 5, 1934.

be that a great deal of trauma has already been produced by the foreign agent.

The following case is presented because of the type of the foreign body and the method of its removal.

R. S.—History No. 1815, age 11. Admitted to the hospital about twelve midnight complaining of pain in penis, and inability to void. Past history essentially negative. About twelve hours before admission to the hospital, he placed a bolt nut over his penis as far as the scrotum. He immediately tried to remove it but was unable to do so. The greater part of the afternoon was spent, without success, in trying to remove the nut.

Swelling began to appear about 5 P. M., and he also became aware that he could not void. The patient kept his condition to himself until about 11 P. M. when the pain became so severe that he had to confide in his father, who immediately brought him to the hospital.

Examination revealed the bladder to be distended three finger breadth above the symphysis pubis. The penis was surrounded at the peno-scrotal junction by a bolt nut, hexagonal in shape. The penis was considerably swollen and edematous, the swelling coming up above the nut. The patient was given a hypodermic of morphine sulphate gr. 1/6 and an attempt made to catheterize him. This was very difficult but was finally accomplished by filling the urethra with mineral oil and passing a number eight ureteral catheter. The catheter was left in place for drainage.

Showing the electric emery wheel used, the nut removed and a similar nut.

How to remove the nut was a question. Attempt to file the nut was a waste of time and effort as the nut consisted of case hardened steel. The question of calling an automobile mechanic in on the case was thought of, but because of the time of night it was not carried out. A trip down to the hospital carpenter's workshop was made in the hope of finding something that would aid. Another file, a hack saw, and a small electric emery wheel were found.

The file had already proved of no aid, and because of the swelling of this penis and length of the saw, it could not be used. But the electric emery wheel proved to be a life-saver.

The edematous tissues were retracted and protected by metal spatulae. The nut was then grasped with a strong bone forceps and held steady. Ice water from an irrigating can was continuously run on the nut and the electric emery wheel began its work.

The nut had to be ground entirely through on one side and almost down to the threads on the other side before it could be opened and removed.

The grinding required two hours and the patient stood the ordeal nicely no general anesthetic being used. The bladder was empty at the end of the operation and the catheter was removed. It was gratifying to find no break in the skin of the penis. A warm wet saline dressing was then applied. The patient spent a very good night afterwards and voided on waking, although there was still a great deal of swelling and discoloration. The patient was allowed to leave the hospital the following afternoon.

The nut after being removed was shown to have a 3/8-inch bore, 7/16-inch width, and 7/8-inch over all, with deep threads and was hexagonal in shape.

Correspondence

Amaurotic Family Idiocy.

COLONY, VA.,
OCTOBER 12, 1935.

TO THE EDITOR:

In October, there was an article in the MONTHLY, written by Dr. D. L. Harrell, Jr., Dr. H. L. Riley, Jr., and myself from this institution, being a case report of three cases of Amaurotic Family Idiocy.

In several places in this paper the term "idiopathic epilepsy" is used. What we meant was "symptomatic epilepsy."

Recently there has been a great deal of discussion about *idiopathic* and *symptomatic* epilepsy and we

should appreciate it very much if you would make note of this correction.

G. B. ARNOLD, M. D.,
Superintendent.

Health at the Masonic Home of Virginia.

RICHMOND, VA.,
OCTOBER 21, 1935.

TO THE EDITOR:

I would like to make a record in our VIRGINIA MEDICAL MONTHLY of what I consider a most unusual finding. I made a thorough physical—including Wassermanns—on all of the children of the Masonic Home of Virginia in 1928 and found all normal. I made another during August of this year, taking the 127 who had come in since 1928 first and the others after—over 200 in all—and found all at this time in excellent condition, normal in every way—a few minor defects such as teeth or tonsils, which were remedied at once. I have reported these findings to several friends, who are in a position to know, and they have all said they do not believe there is another institution of any kind, anywhere, which would be able to make the same showing. Wassermanns, made in the State laboratory, were all negative both times.

RAMON D. GARCIN, M. D.

Report of Corrections of Physical Defects, Smallpox Vaccinations, and Diphtheria Immunizations, Among the School Children of Virginia.

RICHMOND, VA.,
OCTOBER 14, 1935.

TO THE EDITOR:

I am submitting for publication, if you so desire, some statistics compiled from reports of the Division Superintendents of Schools for 1934-1935, which no doubt, will be of interest to the physicians of the State.

ELIOT V. GRAVES,
Supervisor Physical and Health Education.

NOTE: By eye, dental or throat correction is meant, pupil fitted with glasses; a certificate from a dentist that ALL necessary dental corrections have been made; tonsils or adenoids have been removed this year.

By smallpox vaccination is meant, a pupil who has ever been successfully vaccinated against smallpox. By diphtheria immunization is meant, a pupil who has ever been given toxoid or three doses of toxin-antitoxin, or is found to be Schick negative.

The percentages in this report in most instances are below the actual work done in the schools, because they are based on the enrollment. Often pupils will change schools or drop out, and consequently do not stay in school long enough for the teachers to record the correction, so the enrollment of such pupils is often counted twice and the corrections only once, or not at all. The enrollment is given for both the elementary and high schools, and the corrections are often given only for the elementary grades. Frequently the schools that show 80 per cent or above in smallpox vaccinations really have practically 100 per cent vaccinations.

Counties	% Vision Corrected	% Teeth Corrected	% Throats Corrected	% Diphtheria Immunizations	% Smallpox Vaccinations
Accomac	1.8	8.1	.8	43.9	100.0
Albemarle	1.5	10.4	2.4	37.7	92.2
Alleghany	1.4	6.3	1.5	67.4	93.4
Amelia	1.0	9.6	.9	67.8	75.1
Amherst	1.1	12.8	1.1	28.3	40.2
Appomattox	1.8	10.4	1.4	53.0	68.0
Arlington	2.2	24.1	2.0	90.0	100.0
Augusta	2.3	15.0	2.2	79.3	98.6
Bath	4.2	6.6	4.0	66.6	83.2
Bedford	1.5	10.4	3.0	50.6	76.8
Bland	1.0	2.0	.5	73.1	----
Botetourt	.9	8.2	1.5	41.5	84.1
Brunswick	1.4	15.1	4.3	50.1	56.5
*Buchanan	.3	3.5	.5	37.4	60.0
Buckingham	.5	3.9	1.0	49.7	49.7
Campbell	1.6	7.5	1.2	46.6	60.1
Caroline	1.2	8.2	1.8	23.2	69.1
Carroll	2.0	9.5	1.0	75.3	88.1
Charles City	1.3	3.8	.4	60.6	80.7
Charlotte	.3	8.8	.4	67.4	82.5
Chesterfield	3.5	14.0	2.1	42.0	78.9
Clarke	1.7	14.7	1.1	93.8	100.0
Craig	.3	5.6	.6	50.8	55.2
Culpeper	2.6	17.8	1.1	57.1	77.0
Cumberland	1.7	5.8	1.3	54.3	75.0
*Dickenson	.9	25.0	1.1	60.6	81.5
Dinwiddie	1.5	9.6	.9	25.2	72.9
Elizabeth City	2.2	23.9	2.9	25.9	74.4
Essex	1.0	3.6	.4	40.2	71.9
Fairfax	1.5	8.5	4.2	93.5	95.2
Fauquier	.3	4.5	1.1	13.0	55.0
Floyd	1.0	10.3	.8	11.0	60.0
Fluvanna	.7	21.2	1.4	76.8	77.9
Franklin	1.1	8.5	.9	13.0	12.3
Frederick	2.0	15.0	2.0	59.0	90.0
Giles	.9	4.8	.7	42.8	35.2
Gloucester	1.5	8.8	1.1	47.7	75.1
Goochland	.9	6.7	.5	54.6	65.9
Grayson	.8	6.8	.6	33.4	44.6
Greenesville	1.1	16.2	.7	85.8	94.7
Halifax	1.5	7.3	.7	44.8	77.3

	% Vision Corrected	% Teeth Corrected	% Throats Corrected	% Diphtheria Immunizations	% Smallpox Vaccinations
Hanover	1.3	6.3	.9	36.4	48.5
Henrico	2.0	20.0	1.5	85.0	100.0
Henry	.5	8.0	1.2	22.9	88.2
Highland	1.9	12.6	1.8	42.5	95.0
Isle of Wight	2.0	10.3	1.1	84.1	97.8
James City	.9	5.3	.5	53.9	90.1
King George	2.2	46.0	1.0	76.7	81.4
King and Queen	.9	5.6	.6	30.4	77.8
King William	1.9	25.8	2.0	63.5	71.6
Lancaster	3.6	14.0	1.7	65.6	95.3
Lee	.6	8.5	1.4	29.1	26.9
Loudoun	1.4	10.6	.7	66.5	77.1
Louisa	.5	7.7	.6	51.2	65.5
Lunenberg	2.8	13.9	2.1	40.0	83.4
Madison	.7	10.2	.4	46.4	68.5
Mathews	1.1	14.8	2.5	13.9	70.6
*Mecklenberg	1.6	7.1	.9	55.4	55.1
Middlesex	1.3	5.7	.6	48.1	58.6
Montgomery	2.4	8.8	1.3	26.9	84.1
Nansemond	1.2	11.2	1.5	63.0	84.0
Nelson	----	----	----	----	----
New Kent	1.7	10.0	.8	60.7	88.0
Norfolk	1.3	9.0	1.3	47.1	79.6
*Northampton	3.6	8.1	1.7	52.2	79.5
Northumberland	2.5	13.5	.8	71.9	93.8
Nottoway	.8	18.7	.8	65.3	81.9
Orange	3.5	10.2	3.5	60.0	90.0
Page	1.9	8.5	.4	26.7	28.3
Patrick	.5	4.1	1.0	13.0	55.7
Pittsylvania	1.2	4.0	2.9	38.2	38.1
Powhatan	.7	7.8	1.4	41.0	90.5
Prince Edward	1.4	5.7	1.4	81.4	90.4
Prince George	2.1	6.5	.9	53.8	80.5
Princess Anne	1.3	12.7	1.5	49.2	48.8
Prince William	2.0	14.0	3.0	42.6	94.1
Pulaski	1.1	10.5	.7	39.4	84.3
Rappahannock	1.5	24.9	.7	75.7	88.8
Richmond	.0	28.0	1.3	100.0	83.5
Roanoke	1.8	19.6	1.1	18.7	57.8
Rockbridge	2.1	22.4	2.4	65.5	88.8
Rockingham	1.7	11.7	.9	52.7	85.8
Russell	1.0	8.9	1.0	47.1	60.7
Scott	.5	1.0	.9	18.8	24.2
Shenandoah	1.7	13.8	.7	34.5	90.2
Smyth	1.0	7.2	1.1	26.8	40.0
Southampton	1.0	7.2	.9	77.2	85.2
Spotsylvania	1.4	8.2	1.7	43.3	54.9
Stafford	2.1	14.9	1.2	37.0	90.9
Surry	.5	8.1	1.0	59.0	91.5
Sussex	1.2	11.5	1.4	45.2	82.3
Tazewell	1.3	14.1	1.5	71.5	34.3
Warren	1.1	27.3	2.6	69.1	96.9
Warwick	2.5	20.8	1.2	45.5	82.5
Washington	2.2	17.6	1.6	35.5	88.2
Westmoreland	.0	33.3	2.5	100.0	100.0
Wise	1.8	10.7	1.9	28.0	47.3
Wythe	1.8	6.7	1.3	41.1	80.0
York	1.3	14.6	1.8	33.4	89.1
Total Counties	1.5	12.0	1.4	47.8	69.6
Cities					
Alexandria	2.8	8.6	2.9	32.7	58.7
Bristol	.7	5.9	.5	16.0	52.9
Buena Vista	2.4	7.6	1.1	35.2	93.5
Charlottesville	3.2	6.7	1.0	25.0	50.3
Clifton Forge	1.1	7.5	1.6	19.7	66.1
Danville	1.4	17.6	1.9	54.8	90.3
Fredericksburg	1.4	20.1	1.6	50.6	82.0
Hampton	3.5	17.3	1.3	19.7	37.1
Harrisonburg	7.2	34.0	3.9	54.0	89.0
Hopewell	.9	3.1	.5	39.0	45.8
Lynchburg	2.0	21.8	3.5	58.0	100.0
Martinsville	2.5	15.9	1.9	33.4	71.1
Newport News	1.5	10.0	1.2	26.0	71.4
Norfolk	1.2	18.1	1.9	62.8	99.5
Petersburg	.9	3.4	1.7	----	65.7
Portsmouth	1.9	8.6	3.6	9.2	87.0
xRichmond	3.3	17.2	2.6	40.0	100.0
*Roanoke	2.6	8.4	1.4	32.0	85.4
South Norfolk	.8	8.9	.8	24.1	73.2
Staunton	4.8	35.0	6.2	55.7	94.8
Suffolk	3.6	10.0	2.1	67.4	94.5
Williamsburg	2.3	5.7	.4	30.0	100.0
Winchester	1.5	31.4	3.8	20.7	98.7
Total Cities	2.3	13.8	2.3	38.9	87.5
Total Counties	1.5	12.0	1.4	47.8	69.6
Grand Total	1.7	12.9	1.6	45.5	74.2

The American Public Health Association appraisal form for rural communities allows the following evaluations for an ideal Health Department: 15 per cent teeth corrections; 2.5 per cent of school population fitted with glasses; 4 per cent throat corrections; 50 per cent diphtheria immunizations.

Public Health Statistics

I. C. RIGGIN, M. D.
State Health Commissioner of Virginia

The communicable disease reports received at the office of Dr. G. F. McGinnes, State Epidemiologist, for the month of September, 1935, show the following cases compared with the same month in 1934:

*1934 Enrollment.
xUses Seven-Point standard.

	1935	1934
Typhoid and Paratyphoid Fever	82	168
Diphtheria	115	221
Scarlet Fever	97	235
Measles	25	64
Meningitis	9	8
Poliomyelitis	64	22
Rocky Mountain Spotted Fever	2	6
Typhus Fever	1	1
Undulant Fever	0	2
Tularaemia	3	4
Smallpox	0	0

From the Vital Statistics report for August, 1935, from the office of Dr. W. A. Plecker, State Registrar, we quote as follows: "During the month of August there were 2,103 deaths. Of these there were 13 from typhoid fever, 1 undulant fever, 1 measles, 13 whooping cough, 6 diphtheria, 12 influenza, 20 dysentery, 85 diarrhea, 8 poliomyelitis, 1 lethargic encephalitis, 1 epidemic meningitis, 1 rabies, 7 tetanus, 149 tuberculosis (all forms), 16 syphilis, 4 malaria, 1 Rocky Mountain Spotted Fever, 11 pellagra and 39 pneumonia (all forms)."

In view of the increased prevalence of poliomyelitis during the past summer, the reported cases of this disease shown for the month of September represent a marked decrease from the figures previously reported for July and August, 1935. A review of the months of May through September, 1935, shows the following number of cases reported: May, 4; June, 52; July, 244; August, 278; September, 64. The peak of this increased prevalence was reached during the last week in July and the first week in August with a continued decline since that time. During the month of August there were 8 deaths attributed to this disease. There were 278 cases reported during this month which would give a case fatality rate of 2.8. Perhaps of some interest is the fact that during this same month (August, 1935) there were 190 reported cases of typhoid and paratyphoid fever with 13 deaths listed for these diseases, giving a case fatality rate of 6.8.

The reported cases of diphtheria, scarlet fever, typhoid and paratyphoid fever, and measles, for September, 1935, show a decided decrease from those reported for the same month in 1934. Concerning diphtheria, the last two weeks in October and the first week in November is the period of highest incidence of this disease in Virginia; we may therefore expect an increase during this period. The decrease in measles has been previously attributed to the expected drop after the 1934 peak in the three or four-year cycle of the disease.

The one death reported from rabies is of interest because of its rarity in Virginia.

The seven deaths reported from tetanus is rather striking. A review of the reported deaths from this disease for 1935 show the following cases according to months: January, 1; February, 0; March, 1; April, 0; May, 1; June, 3; July, 2; August, 7. The distribution of these cases reported for August was as follows: Richmond City, 1; Henry County, 1; Middlesex County, 1; Northampton County, 1; Danville City, 1; Fredericksburg City, 1; Newport News City, 1.

Woman's Auxiliary to the Medical Society of Va.

President—MRS. FLETCHER J. WRIGHT, 49 S. Market St., Petersburg.

President-Elect—MRS. F. D. WILSON, 5352 Studley Ave., Norfolk.

Corresponding Secretary—MRS. MEADE EDMUNDS, Walnut Hill, Petersburg.

Recording Secretary—MRS. HAROLD W. POTTER, 70 33rd St., Newport News.

Treasurer—MRS. REUBEN F. SIMMS, 2502 Hawthorne Ave., Richmond.

Greetings!

At the beginning of a new season, and a new administration, we would like to say to every member of every Auxiliary in our State, and to every doctor's wife who is not a member—GREETINGS! Would that this message could be given in person, for then we could not only greet you, but appeal to you individually, to give us your loyal support, and your needed cooperation and help.

Our greatest need in the Woman's Auxiliary to the Medical Society of Virginia, still, is further extension. We cannot organize in localities where the doctors themselves are not interested in having an Auxiliary to their County Society, so we are hoping that the doctors themselves may glance over this article, and that some of them will be interested enough to write us, "We do want an Auxiliary." We'll do our part to see that you have one.

The Auxiliaries do not set as their objective, "All work and no play," for there is much real pleasure and enjoyment found in meeting with our

neighbors, some of whom we have been too busy to see often, and of making new friends, some of whom we would not contact in any other way.

In no way, is the Auxiliary an interfering factor. We stand ready to help, without forcing ourselves or our ideas upon any individual, group, or organization.

Regardless of secretaries and office assistants in the office, or servants in the home, the telephone must be nursed to a large degree, and the doctor's interests looked out for, by his wife. Every wife will tell you that she is needed in many ways, to assist her doctor in his work. We believe that a concerted effort, with combined unity of all of the wives in the profession, will be of equal help to the medical men in their various counties, and in the State, without in the least interfering with the duties of each individual. Our State Chairmen stand ready to help you organize, or to make your Auxiliary more interesting and worth while, and will furnish you material for your programs, or for health education.

We believe with Shakespeare that, "Our doubts are traitors, and make us lose the good we oft might win, by fearing to attempt."

Attempt to organize a new Auxiliary; attempt to make your own more worth while, and we know that your community, and the Medical Society of Virginia will reap splendid results during the coming year.

Again, greetings and best wishes.

Faithfully yours,

ANNE SEAY WRIGHT,
(MRS. FLETCHER J. WRIGHT),
President.

Retrospection.

In retrospection of a year's work of the Woman's Auxiliary to the Medical Society of Virginia, of the many responsibilities involved and the hours spent in an effort to perpetuate the ideals of the Society to which we are an Auxiliary, permit me to say that I count it no small privilege to have assisted in my humble way by burning the "oil of time" and applying "tincture of patience" so that we may look back to the year with a sense of achievement.

Perhaps a review of the year's work may reveal apparent neglect of responsibilities, but let me assure you that where errors were made they were omissions of the mind and not of the heart.

The duties of a State president are quite varied, sometimes they seem complex, nevertheless they are absorbingly interesting and the very nature of these duties impels one to realize that the power of our organization is in our auxiliaries and we must center our efforts in the formation of women's groups in many counties throughout the State. We now have a total of nine auxiliaries representing twenty-five counties and we also have one Junior Auxiliary.

"Hygeia" is the official Journal of Health of the American Medical Association and it is incumbent upon us to foster its growth and insist that each auxiliary president appoint a *Hygeia* Chairman. You are urged to read Auxiliary News in the *Bulletin of the American Medical Association* and also in your own VIRGINIA MEDICAL MONTHLY.

We cooperated with the Maternity Center Association of New York in sponsoring programs for Mother's Day in each auxiliary. A telegram from the State President was sent to this association on Mother's Day commending their work in reducing the maternity death rate in this country. A telegram of appreciation was received from the President of that Association.

A Post-Convention Executive Board Meeting was held in Alexandria, October, 1934. The Mid-Winter Board Meeting took place in Richmond, March, 1935. The last Pre-Convention Meeting was held in Norfolk, October, 1935. All were well attended.

Your President attended the last Convention of the American Medical Association in Atlantic City, June, 1935, and represented your State at annual meeting of the Woman's Auxiliary to the District of Columbia Medical Society in Washington last May. I visited many of the State Auxiliaries. Regret that time did not permit visiting all groups.

Among recommendations adopted at the meeting in Norfolk were that this State observe annually a day of appreciation of the struggles and sacrifices that the medical profession has made in the defense of human living throughout the ages—that such a day be called "Doctor's Day" in commemoration of some member or some notable achievement in the Medical Arts of the State.

Several other recommendations adopted by the American Medical Association in Atlantic City in June, 1935, and of the Southern Medical Association and of our own State Chairman of Legislation, were adopted by our Auxiliary.

Your President suggests that each county auxiliary

concentrate, if feasible, on one definite project of the year.

I take this opportunity to express to the officers, members of the Executive Board and to Auxiliary members, my warm appreciation for their ever-ready cooperation and to the Advisory Council for its guidance and interest. I also wish to thank the Norfolk Committee for its loyal support in the preparation of program for this Convention.

It is a pleasant duty to voice my personal obligations to Miss Agnes Edwards, Executive Secretary to the Medical Society of Virginia, for her valuable assistance and counsel, and to the Editor of the VIRGINIA MEDICAL MONTHLY my grateful appreciation for the space allotted to Auxiliary News.

It has been a pleasure to have served you and I am proud to be in the list of my predecessors and am indebted to you for a broadening and strengthening of my own experiences.

May the administration of my successor inspire us to assume these obligations and work with her to attain broader and greater heights.

KATE C. BEAR,
(MRS. JOSEPH BEAR),
Retiring President,
Woman's Auxiliary to the
Medical Society of Virginia.

Truth About Medicine

NEW AND NON-OFFICIAL REMEDIES

The following products have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association for inclusion in New and Non-official Remedies:

Diphtheria Toxoid, Alum Precipitated (Refined)—P. D. & Co.—This product (New and Non-official Remedies, 1935, p. 395) is also marketed in packages of one 0.5 c.c. vial and in packages of one 5 c.c. vial containing one and ten doses, respectively. Parke, Davis & Co., Detroit.

Diphtheria Toxoid.—(See New and Non-official Remedies, 1935, p. 395). For determining sensitivity to the non-antigenic portion of diphtheria toxoid, a diluted diphtheria toxoid is supplied. This is marketed in packages of one 0.5 c.c. vial and in packages of one 5 c.c. vial containing diluted diphtheria toxoid sufficient for five and fifty reaction tests, respectively. Parke, Davis & Co., Detroit. (*J. A. M. A.*, September 21, 1935, p. 966.)

Book Announcements

The Laboratory Notebook Method in Teaching Physical Diagnosis and Clinical History Recording. By LOGAN CLENDENING, M. D., Professor of Clinical Medicine in the University of Kansas. St. Louis. The C. V. Mosby Company. 1934. Octavo of 71 pages. Paper. Price 50 cents.

This little book is a most significant departure from the usual methods of teaching Physical Diagnosis. It is obviously not meant to replace the elementary courses in this subject given as a rule during the sophomore year in which physical findings in normal subjects and the variants usually associated with pathological changes in the body tissues are stressed, rather than the detailed clinical study of sick patients.

The proper place for it in a curriculum would seem to be as a guide to the very earliest studies in clinical medicine and its chief value would seem to be to point out the path to a thorough and orderly approach to the abstruse problems presented in the every-day study of patients whether in general practice, the outpatient department, or the hospital. The earlier such habits of mind are acquired and the more persistently they are encouraged, the more permanent and effective will they be. Dr. Clendening's ingenious method of clinical teaching appeals to me as a distinct and very practical advance beyond the more or less haphazard customs which have prevailed up to this time.

The criticisms which I would make of the text are few but seem to me to be worthy of note. In the chapters on "Heart Disease" no mention is made of blood pressure estimation though the average doctor uses the sphygmomanometer almost as regularly as he does his stethoscope; nor of electrocardiography or teleoroentgenography which have now come into every-day use and are generally considered as an integral part of physical diagnostic procedure. In the chapters on the "Lungs" roentgenography is again omitted.

The danger of such omissions seems to me to be a real one, in that it tends to give the student a false sense of security in his ability to diagnose pathological lesions by the four cardinal physical diagnostic methods alone, which of course will frequently lead him into error.

In the section of the book given over to "Exercises" we find such questions as—Name twenty diseases in which there are enlargements or masses

in the neck—Name ten causes of enlarged spleen—Name and describe the characteristics of the ten commonest abdominal tumors—What results from the thrombosis of the posterior inferior cerebellar artery? These are obviously intended for students well advanced in the study of clinical medicine, surgery and neurology.

The only laboratory procedures mentioned are in "Exercise 18" and include only a few questions on the urine, stool, sputum and vomitus. It seems to me that this section should either have been elaborated to cover at least the routine and every-day tests used in clinical medicine or should have been omitted entirely.

To summarize briefly: (1) The principle which underlies Dr. Clendening's work is reasonable and sound and marks a very real advance.

(2) For the fullest development of this principle it seems to me that there should be a series of little books rather than one book; (a) a pre-clinical primer, for sophomores; (b) an introduction to clinical medicine, for juniors; and (c) a more elaborate work along these same lines to bring together all of physical, mechanical and chemical methods used in modern medicine for the study of sick persons.

J. POWELL WILLIAMS.

The Nervous Breakdown. By the Editors of "Fortune." Doubleday, Doran and Company, Inc., New York. 1935. 12 mo. of 85 pages. Cloth. Price, $1.00.

This unfortunately entitled little book came out as an article in "Fortune" which the writer read some months ago. Of course there will be differences of opinion but personally I think the whole publication was unfortunate. In the first place, a group of physicians in mental hygiene, psychiatry and psychonanalysis were consulted. These opinions were then boiled together in a pot-pouri by a lay writer after which the authorities were again called upon and the dissents of those not agreeing were put in footnotes. The footnotes are by far the best part of the book. The plan adopted was very much like taking some special problem in religion, for instance the question of the immaculate conception or the Trinity, and then getting the opinions of a Presbyterian minister, a Baptist preacher, an Episcopal parson, a Jewish rabbi, a Catholic priest, a Mohammedan and a Buddhist and letting someone who knew absolutely nothing about religion mix these together and expound the theology to the public.

Across the top of the article in "Fortune" were the pictures of these various authorities. Knowing practically all of them one would say that these photographs certainly did not do them justice. Probably pictures of their fingerprints would have been more handsome and identifying.

In "The Nervous Breakdown" certainly no one psychiatrist mental hygienist or psychoanalyst could agree in much more than half of what is put down in the regular script. The definition of a nervous breakdown is illuminating. "A nervous breakdown may be defined as a state in which psychic (mental-emotional) factors prevent one from carrying on the business of normal living."

The case histories cited are certainly amusing. So are some of the classifications and much of the nomenclature. The chapter entitled "Psychoanalysis: the Technique," is a scream.

Well, there is no use going on any further. Physicians might read it if they have the time to waste. It will not hurt the layman's digestion, although he would not know whether he was eating American hash, Chinese chop-suey or Hungarian goulash.

B. R. T.

Virginia Medical Monthly

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Editorial

The President.

To be President of the Medical Society of Virginia is an honorable distinction and especially is it gratifying when it comes to one as the spontaneous expression of the affection and confidence on the part of one's fellow physicians throughout the State. Thus it came to our new president, Philip St. Leger Moncure, of Norfolk. The son of St. Leger Lander Moncure and Lucy George Oliver, he was born on January 27, 1867, at Ruther Glen in the historic county of Caroline. Descended from a long line of distinguished Virginians, he early evinced a desire to enter the profession of medicine.

His primary education was received at home and in the public schools near his home. In 1888 he completed a four-year course in the Caroline County Graded School at Bowling Green. While there he came under the influence of two noted teachers, William A. Moncure, now Judge of the Chancery Court of Richmond, and the late John M. Garnett.

Unable at this time to pursue the study of medicine, he spent the next six years in the office of the R. F. & P. Railroad in Richmond. During this period, his spare time was utilized in the study of mathematics, drawing and chemistry, still with an eye to accomplishing his boyhood ambition of becoming a physician. In 1894 he entered the Medical College of Virginia, where he distinguished himself in materia medica, surgery, therapeutics and in the study of nervous diseases. In 1897 he graduated fifth in his class, and accepted an appointment as intern at St. Vincent's Hospital in Norfolk. On the completion of his internship, he entered the practice of medicine and surgery in Norfolk. Since then he has diligently studied to perfect himself in his chosen profession, by attendance on the leading clinics in this country and abroad, and by constant association with his fellow physicians in various scientific groups. He is a past president of the Norfolk County Medical Society, a charter member of the Seaboard Medical Society, and a member of the American College of Surgeons, since its merger with the American Congress of Surgery in 1914. He has been a member of the State society since 1900 and a regular attendant at its meetings. Since 1917 he has been a member of the State Board of Medical Examiners, and is thus known to all the physicians in the State who have entered practice during the past eighteen years. He is also known, for his diligence, to those cultists and quacks who from time to time have striven to evade the Medical Practice Act of the State.

During all these busy years of practice, he has found time to interest himself in everything that concerned the general welfare of his fellow man. A thirty-third degree Mason, for the past ten years he has been almoner and chairman of the Scottish Rite Brothers. For twenty-five years he has taught anatomy and chemistry in the St. Vincent's School

of Nursing. Since beginning practice he has been on the gynecological staff of St. Vincent's Hospital and has conducted the gynecological clinic at that institution. He has found time to make important contributions to the literature of surgery and gynecology, and even to digress into the field of roentgenology. For a number of years he was a member of the American Roentgen Ray Society.

The younger physicians who have come under his influence can testify to his interest in medical education and his zealous desire to promote the welfare, not only of his beloved alma mater, but of medical education in general. For thirty-eight years he has practiced his profession and has made that profession more honorable. He has moved among us with a simplicity of manner, an unselfishness of purpose, and a charitableness of heart that has won and held the love and admiration of all that know him.

It is fitting at this time of unrest and uncertainty that the Society should have as its president, a man of wide experience, broad outlook and high ideals.

W. B. M.

PHILIP ST. LEGER MONCURE, M. D.,
President, Medical Society of Virginia.

Statues and Doctors.

Six doctors are buried in Westminster Abbey, John Hunter, Richard Mead, David Livingstone, Matthew Baillie, James Simpson and James Buchan. Sir James Y. Simpson's statue is a prominent object on Princess Street, Edinburgh. Crawford Long and Ephraim McDowell have statues erected to them in our national capitol. In Virginia as far as we know there are but two physicians whose life and work has been commemorated in the form of statues. In Fredericksburg stands the imposing equestrian figure of Dr. Hugh Mercer, Revolutionary general and hero. In the Capitol Square at Richmond is a statue of Dr. Hunter Holmes McGuire. Last month a group of medical students, doctors and notables gathered about the statue of Dr. McGuire. It had been a hundred years since his birth. They had come there to honor a doctor who was once Medical Director of the Second Army Corps of the Confederate Army; who founded the University College of Medicine, and was its first professor of surgery; who was a pioneer in prostatic surgery, and who was honored with the presidency of the American Surgical Association and later with that of the American Medical Association, a "useful citizen, broad humanitarian, gifted in mind and generous in heart."

Rheumatism and Tuberculosis.

The cause of rheumatism is still shrouded in mystery. The advocates of an infectious etiology and those who lean toward an allergic basis are about equally divided. There have been other explanations of the disease. In France, for example, the opinion is said to be still current that rheumatic fever is a manifestation of tuberculosis. This point of view was recently discussed by Professor W. T. Ritchie at a meeting of the Medico-Chirurgical Society of Edinburgh. Among other things Professor Ritchie said: "Like tuberculosis rheumatism is not a hereditary disease, but several cases may occur in any one family. Moreover, although the first obvious manifestations of rheumatism, like those of tuberculosis, may appear in the schoolchild or adolescent, the pathological process almost certainly begins at an earlier age." The problem of prevention in both diseases is peculiarly alike. "To combat acute rheumatism the same general principles should be adopted as in the fight against tuberculosis—if our people were better housed there

would be less rheumatism." In commenting upon Professor Ritchie's remarks J. G. McCrie compared the Aschoff nodule to the tubercle.

Anyone who has handled large numbers of tuberculous patients can recall numerous instances in which painful joints and muscles proved troublesome and puzzling. Occasionally in an unexplained continuous fever painful swollen joints may cause the clinician to consider seriously rheumatic fever until signs of pleurisy or parenchymal pulmonary tuberculosis indicate the exact causative factor. A number of years ago Lawrason Brown, in commenting upon the relationship of rheumatism to tuberculosis, stated that acute rheumatic fever almost never developed in the tuberculous—he had seen but one case among two thousand patients. He admitted however the frequency of joint pains and myalgias among the tuberculous and he called attention to the work of Poncet in France who described a form of tuberculous arthritis occurring chiefly among children with local symptoms outweighing general symptoms and significantly resistant to the salicylates.

There is perhaps no bacteriological relationship between tuberculosis and rheumatic fever, but tuberculosis may exhibit rheumatic pains, and in the early stage, particularly before the disease has declared itself, multiple painful and swollen joints in the presence of fever may prove puzzling, even suggestive of acute rheumatic fever.

New Points of View.

The paper of Dr. W. W. Waddell and Dr. C. W. Purcell on Poliomyelitis in Charlottesville during the past summer, read before the recent meeting of the Medical Society of Virginia, was an important contribution. These authors report 111 cases of poliomyelitis seen by them in the Outpatient Department of the University Hospital and estimate that no less than 1,500 cases must have occurred in the city of Charlottesville and the county of Albemarle in the period during which they made their observations. The records of the Virginia State Board of Health for the months of July, August and September show that a total of 166 cases were reported from the city of Charlottesville and the county of Albemarle together, about one-tenth of the number estimated by Drs. Waddell and Purcell. The State Board of Health reports a total of 647 cases of poliomyelitis as having occurred in Virginia during the summer months of June, July, August and September. If Drs. Waddell and Purcell's estimate is correct for Charlottesville and Albemarle County and the same proportion of actual to reported cases is assumed to have existed in the State, there must have been no less than 6,000 cases in Virginia during last summer. If this is true the contention that no epidemic existed in Virginia at this time can hardly be considered to carry much weight.

Drs. Waddell and Purcell state that thirty-nine of their cases exhibited an increase of the protein content of the cerebro-spinal fluid without an increase of cells. They consider the finding of globulin in the absence of a pleocytosis a valuable early diagnostic sign in acute poliomyelitis. If their findings can be substantiated they will no doubt have made a valuable contribution towards the early diagnosis of a disease which in its pre-paralytic stage is rarely correctly diagnosed except during times of epidemic. The conclusions of these authors are of course at variance with the orthodox point of view which has stressed a pleocytosis rather than an increase of globulin as a finding of early diagnostic significance. Landon and Smith in their recent monograph on the subject state that "The *protein content* of the spinal fluid is usually low or normal early in the disease. . . . The cell count and the protein content thus show little correlation, the cells reaching maximum in the early days of the illness when the globulin is normal or only slightly increased, whereas the increased protein may persist for some time after the cells reach normal."

Department of Clinical and Medical Education of the Medical Society of Virginia

Program for Postgraduate Clinic at the University of Virginia.

The Department of Medicine of the University of Virginia will hold its sixteenth postgraduate clinic at the University of Virginia hospital on Friday, November 15, 1935. This clinic is conducted in cooperation with the Department of Clinical and Medical Education. The program follows:

9:00- 9:30 Registration, University of Virginia Hospital.

MORNING SESSION

9:30-10:00 Pregnancy and Hypertension. Dr. J. E. Wood.
10:00-10:10 Discussion.
10:10-10:40 Present-Day Treatment of Malignant Disease. Dr. V. W. Archer.
10:40-10:50 Discussion.
10:50-11:20 Indigestion. Dr. Staige D. Blackford.
11:20-11:30 Discussion.
11:30 Clinico-Pathological Conference. Dr. J. C. Flippin and Dr. James R. Cash.
12:15 Lunch.

AFTERNOON SESSION

1:30 Surgical Clinic. Dr. Carrington Williams, of Richmond, Va.
2:15 Ward Rounds. (Details will be announced at time of Clinic.)
Round Table.

Physicians of the State are cordially invited to attend and participate in the discussions. No admission will be charged.

Lecture Notes by Doctors Lyon and Ravenel Available.

About a hundred of the mimeographed lecture notes of Dr. George M. Lyon on Pediatrics, used by him in the Leesburg, Norfolk and Nassawadox short courses on Pediatrics are available. The lecture notes of Dr. Samuel F. Ravenel used in the short courses on Pediatrics given in Christiansburg and South Boston are being mimeographed at this time and prepared for distribution. One set of these notes will be sent free to doctors who enrolled in any of the clinics conducted by the Department of Clinical and Medical Education. For others there is a small charge of fifty cents for each set.

GEORGE B. ZEHMER,
Executive Secretary.

Proceedings of Societies

Southwestern Virginia Medical Society.

The Fall meeting of this Society was held in Roanoke, September 26th and 27th, with the President, Dr. Beverley F. Eckles, of Galax, presiding. At the banquet held on Thursday night Dr. Eckles gave his presidential address. Dr. W. T. Sanger, President of the Medical College of Virginia, was the invited speaker and gave an address on "Trends in Medical Education." A film strip on Cancer of the Breast was presented by the American Society for the Control of Cancer.

On Friday, clinics were held in the various Roanoke hospitals, after which the business meeting was held and the following officers elected: President, Dr. W. R. Whitman, Roanoke; vice-president, Dr. J. J. Giesen, Radford; and secretary-treasurer, Dr. H. W. Bachman, Bristol, re-elected

The Spring meeting of this Society will be held in Galax, Va.

The Mid-Tidewater Medical Society

Held its October meeting at Millers Tavern, Va., with Dr. E. L. W. Ferry, of Millers Tavern, presiding. Reports were heard on the meeting of the Medical Society of Virginia recently held in Norfolk.

Dr. J. Morrison Hutcheson, Richmond, was presented as the president-elect of the State Society and made some brief remarks. He brought to the attention of the members the increase in malaria, and

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assigned as a cause the inadequate activities of the Malarial Control Commission.

A delicious dinner was served by the local committee of physicians and the ladies of the Auxiliary were present for this occasion.

At the evening session Dr. Frank S. Johns, Richmond, presented a paper on "Cancer of the Colon" and illustrated his talk with an interesting case report. Discussion of his paper was led by Dr. T. Dewey Davis, of Richmond, and followed by Dr. Guy Horsley, Dr. Harry Tabb and others. Dr. E. T. Gatewood, Richmond, spoke on the subject of "Foreign Bodies in the Trachea." Discussion of his paper was led by Dr. Basil Jones, of Richmond, and followed by Dr. Bates and others.

The report of the nominating committee was adopted as presented. Dr. J. Newton DeShazo, Centre Cross, was elected president-elect; Drs. Rob Hoskins, Harry Tabb, L. O. Powell, Virgil Stiff, R. D. Bates, Warner Lewis, J. R. Parker, and J. M. Gouldin, vice-presidents; and Dr. M. H. Harris, West Point, was re-elected secretary-treasurer. Dr. Thomas B. Latane will take the office of president at the next meeting, which will be held in West Point, Va., on the fourth Tuesday in January.

The Mecklenburg County Medical Society

Held its regular Fall meeting at Boydton, on September 24th, with Dr. L. H. Bracey, President, presiding. The meeting opened with a dinner, after which the following program was presented: Dr. W. B. McIlwaine, Petersburg, gave a talk on Infant Feeding; Dr. J. Morrison Hutcheson, Richmond, spoke on Treatment of Heart Failure without Oedema; and Dr. D. S. Daniel, Richmond, read a paper on The Injection Treatment of Varicose Veins and the Circulation of Blood in the Varicose Veins.

A letter was read from Dr. Wright Clarkson, Fourth District Councilor, Petersburg, regarding the formation of the Fourth District Medical Society, and it was moved and carried that the Society favored the formation of such an organization.

Dr. T. H. Valentine, Lawrenceville, County Health Officer, was made an honorary member, and the following were elected officers for the coming year: President, Dr. A. T. Finch, Chase City; vice-president, Dr. B. J. Montgomery, Baskerville; and secretary-treasurer, Dr. W. W. Wilkinson, LaCrosse, (re-elected).

The Bedford County Medical Society

Held its regular quarterly meeting on October 14th. This meeting was largely given over to a discussion of health work and the care of the poor and indigent. It was decided to take under consideration a plan whereby the doctors of the county could hold, from time to time, clinics in the public schools, immunizing the pupils of the school and children of pre-school age against diphtheria and smallpox; clinics for children who do not measure up to the five-point system; pre-natal clinics; venereal clinics; infant clinics; and dental clinics; and that they would petition their Supervisors to recognize and allow orders of the overseers of the poor for half regular price of service rendered to poor and indigent. It was felt that much, if not all, of the preventive work being done by means of Federal and State funds can be done by the physicians themselves and that most of these agencies are unnecessary.

Dr. C. H. Bondurant is president of this Society, and Dr. J. A. Rucker, secretary. Both are from Bedford.

Orange County Medical Society.

At the regular meeting of this Society held on October 4th, the following officers were elected: President, Dr. Lewis Holladay; vice-president, Dr. O. N. Shelton; and secretary-treasurer, Dr. Grant R. Elliott. All of these officers are from Orange, Va.

The Northampton County Medical Society

Held its regular quarterly meeting at Eastville, Va., on Wednesday, October 2nd. The guest speaker on this occasion was Dr. M. H. Todd, Norfolk, Va., whose subject was "Emergency Surgery." Resolutions were passed by the Society on the death of Dr. G. Fred Floyd.

The Roanoke Academy of Medicine

Held its first meeting of the Fall on the evening of October 7th, at which time the following were elected officers for the ensuing year: President, Dr. George Hurt; vice-presidents, Dr. L. G. Richards and Dr. H. H. Wescott; secretary-treasurer, Dr. B. P. Seward All are of Roanoke.

Southampton County Medical Society.

At the meeting of this Society on September 12th, Dr. J. M. Bland, Boykins, was elected president,

and Dr. W. T. McLemore, Courtland, re-elected secretary-treasurer.

Lynchburg Academy of Medicine.

At the regular meeting of this Society held on September 9th, Dr. J. W. Devine presented a paper on Thyroid Surgery.

At the October meeting, Dr. E. G. Scott presented a paper on Clinical Application of Electrocardiographic Studies.

News Notes

Medical Society of Virginia.

The meeting of the Society in Norfolk, October 15th, 16th, and 17th, was well attended and every one had a good time in addition to enjoying an excellent scientific program. The business sessions were all held on Tuesday and clinics by Dr. R. L. Payne and Dr. Walter B. Martin that afternoon. The first general session was that evening at eight o'clock, at which time the President, Dr. F. H. Smith, Abingdon, gave his address "Through a Doctor's Glasses." Dr. Arthur C. Christie, invited guest from Washington, D. C., also gave an address at this session on "The Answer of the Medical Profession to State Medicine."

A symposium on Therapy was held on Wednesday afternoon, at which time the principal speakers were Dr. F. C. Rinker, Norfolk; Dr. Joseph F. Geisinger, Richmond; Dr. T. J. Williams, University; and Dr. H. C. Henry, Petersburg. The second invited guest, Dr. James E. Paullin, Atlanta, Ga., was on the Wednesday evening program and presented a most interesting paper on "The Significance and Diagnostic Importance of Pain in Disease." Following the evening session, there was a reception, informal dance and buffet supper at the Woman's Club. An oyster roast on Lynnhaven Bay immediately followed the close of the meeting on Thursday.

At the closing session on Thursday, the 17th, Dr. P. St. L. Moncure, of Norfolk, assumed office and the following officers were announced for the coming year: President-elect, Dr. J. Morrison Hutcheson, Richmond; vice-presidents, Dr. C. Lydon Harrell, Norfolk, Dr. E. M. Chitwood, Wytheville, and Dr. J. A. Owen, Turbeville; executive secretary-treasurer, Miss Agnes Edwards, Richmond.

Drs. J. C. Flippin, University, and Walter B. Martin, Norfolk, were elected delegates to the American Medical Association, with Dr. Wright Clarkson, Petersburg, holding over, and Drs. Carrington Williams, Richmond, and I. C. Harrison, Danville, were elected alternates, with Dr. Roshier W. Miller, Richmond, holding over.

This being the year for election of councilors from the odd number districts, the following were elected:

1st District—Dr. Griffin Holland, Eastville.
3rd District—Dr. Roshier W. Miller, Richmond.
5th District—Dr. Beverley F. Eckles, Galax.
7th District—Dr. C. O. Dearmont, White Post
9th District—Dr. C. B. Bowyer, Stonega.

Altogether this was an excellent meeting and balmy, clear weather added greatly to the pleasure of those attending.

A report on the business transactions of the Society will appear in the minutes in the December issue of the MONTHLY.

Virginia Pediatric Society.

Virginia pediatricians held a meeting in Norfolk at the time of the State Society meeting and decided to re-organize and elected the following officers for the coming year: President, Dr. Basil Jones; vice-president, Dr. J. S. Weitzel; and secretary-treasurer, Dr. W. Ambrose McGee. All of the officers are of Richmond. The present plan is to have a clinical meeting in Richmond, probably in May, and to have a luncheon meeting for the election of officers at the time of the annual meeting of the Medical Society of Virginia.

The Virginia Urological Society

Also met at the time of the Norfolk meeting of the Medical Society of Virginia. Officers elected for the ensuing year are: President, Dr. J. F. Geisinger, Richmond; vice-president, Dr. C. J. Devine, Norfolk; and secretary-treasurer, Dr. L. D. Keyser, Roanoke.

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Invitation to Southern Physicians to Attend the Southern Medical Association.

The 29th annual meeting of the Southern Medical Association, the second largest medical organization in the United States, will be held in St. Louis, November 19th-22nd, under the presidency of Dr. H. Marshall Taylor, of Jacksonville, Fla.

The unusual clinical facilities of the two medical schools and the numerous hospitals, combined with the high standing of the medical profession, and the excellent hotel accommodations make St. Louis an ideal city for this medical gathering.

Addresses and papers will be presented by distinguished clinicians, not only from the South, but from all over the United States as well as from several foreign countries.

The St. Louis Medical Society extends a very cordial invitation to all physicians in good standing in their State and Provincial medical societies to attend this meeting.

These meetings are always most enjoyable and we hope many of our members will arrange to attend.

Delegates to Association of Military Surgeons of the United States.

Brigadier-General S. Gardner Waller, The Adjutant General of Virginia, appointed Lieutenant-Colonel Nelson Mercer, Medical Corps, State Staff, Virginia National Guard, of Richmond, and Major George W. Schenck, Medical Corps, 111th Field Artillery, Virginia National Guard, of Norfolk, as delegates from the Virginia National Guard to the 43rd annual meeting of the Association of Military Surgeons of the United States in New York City, October 3rd to 6th.

All meetings were held in the grand ballroom of the Waldorf-Astoria Hotel, and were attended by about 350 members of the Association, and twenty-five delegates from foreign countries. Many interesting papers and demonstrations of modern developments in military medicine and surgery were presented, and excellent clinical cases were shown at the U. S. Veterans' Hospital in the Bronx. An inspection of the U. S. Military Academy at West Point, and a dress parade of cadets in honor of the Association were held on Sunday, October 6th. At the annual banquet a good time was had by all present.

The retiring President of the Association was Captain William Seaman Bainbridge, M. C., U. S. N. R., of Brooklyn, N. Y., and the present President is Medical Director Charles M. Griffith, U. S. Veterans' Administration, of Washington, D. C.

Ounces of Prevention.

Red Cross ministers to victims of disasters, nurses the wounded and is on call to provide nurses in any widespread epidemic, but it has progressed beyond curative measures alone and is devoting a large part of its energies to preventive work through nation-wide programs of first aid, water life saving, public health nursing and health education. In all of these activities the Red Cross has had the cooperation and guidance of the medical profession, without whose help little of real worth could have been accomplished.

Safeguarded by Red Cross training and supervision swimming and water sports have become the most universal in America and each year thousands of youngsters learn water safety at public pools, beaches and summer camps under the direction of Red Cross lifesavers. Thousands of lives are saved and untold suffering is spared victims of accidents and water sports because someone on the scene of an emergency has received training in Red Cross methods of first aid and life saving and is thus enabled to give help intelligently.

These Red Cross safety services are supported by the nation-wide annual Roll Call—just as are its disaster, nursing, veteran and civilian relief programs. Share in the work of your Red Cross and support it by enrolling as a member, November 11th-28th.

Medical College of Virginia News.

Through an anonymous gift of $300,000.00 and a Federal grant of $239,850.00, an outpatient clinic building with associated medical laboratories, which has been planned by the institution for several years, will shortly go under construction. The building will be seven stories in height, the four lower floors to be assigned to clinics, the upper floors for teaching laboratories in pathology, bacteriology, biochemistry, public health and preventive medicine. The building will be located in the hospital group and subsequently a new hospital will be constructed adjoining. The clinic and laboratory building is designed in the shape of a T; the hospital will be designed in the shape of a Maltese cross.

The 1935 graduating class of the school of medicine of seventy-six was approximately twenty less

than in previous years, reflecting the plan of the institution to reduce medical school enrollment.

Beginning with the session 1935-36 a three-year premedical college entrance requirement became effective in the school of medicine. For several years this has been virtually the requirement.

Exercises commemorating the one hundredth anniversary of the birth of Dr. Hunter McGuire were held on October 11th by the college and were broadcast over Station WRVA.

Speakers on this occasion were Honorable George C. Peery, Governor of Virginia; Colonel Robert T. Barton, whose father was president of the Board of Visitors of the University College of Medicine founded by Dr. McGuire; Dr. W. Lowndes Peple, who graduated under Dr. McGuire's administration at the University College of Medicine, and Dr. Marshall J. Payne of Staunton, Va., representing the medical profession and himself a personal friend of Dr. McGuire.

The exercises were preceded by academic procession from McGuire Hall to the Hunter McGuire statue in Capitol Square where the exercises were held. At the conclusion of the exercises a wreath was placed on the statue by Hunter Holmes McGuire, Jr., a great-grandson of Dr. McGuire.

News from University of Virginia, Department of Medicine.

Dr. James Young, Professor of Midwifery and Diseases of Women at the British Postgraduate School at Hammersmith Hospital, London, visited the Medical School on September 12th.

At the meeting of the University of Virginia Medical Society on October 7th Dr. W. W. Waddell spoke on the subject of Poliomyelitis.

Dr. James R. Cash and Dr. Oscar Swineford spoke before the Staff of the Southside Community Hospital in Farmville on October 7th. Dr. Swineford spoke on Allergy and Dr. Cash discussed a number of surgical pathological cases.

News from New York Polyclinic Medical School and Hospital.

At a meeting of the Clinical Society of the New York Polyclinic Medical School and Hospital, held in New York City, October 7th, the following program was presented:

1. "The Inhibiting of Thyroid Activity to Control Heart Disease" by Drs. Edmund Horgan and James Alexander Lyon, of Georgetown University, Washington, D. C. The discussion was opened by Drs. Richard Lewisohn and Robert Emery Brennan.
2. "Transthoracic Electrocardiography; the Theory and Clinical Application of the New Electrocardiographic Methods" by Dr. Albert S. Hyman, Witkin Foundation, New York. The discussion was opened by Drs. Louis F. Bishop, Jr., Joseph B. Wolffe and Harold E. B. Pardee.

Members of the Clinical and Surgical Association of Massachusetts were guests of the New York Polyclinic Medical School and Hospital on Tuesday and Wednesday, October 8th and 9th. The members of this Society visit medical schools each year and this year came to the New York Polyclinic Hospital, where a special program was presented.

Jefferson Medical College News.

The 111th Annual Session of the College was inaugurated on September 23, 1935, at eight o'clock in the Assembly Hall of the College. Mr. Wilfred W. Fry, President of the Board of Trustees, presided.

The Introductory Lecture was delivered by Louis H. H. Clerf, M. D., Professor of Bronchoscopy and Esophagoscopy, on "Medicine as a Career."

Dr. Ross V. Patterson, the Dean of the College, welcomed the 536 members of the student body. Of this number, 144 are new students, 134 admissions to the First-Year Class.

The members of the First-Year Class were prepared for medical study in fifty-seven different Institutions; all of them have pursued and completed four years of preliminary and preparatory study and have graduated from these institutions before being admitted to the medical course. Seventeen members of the First-Year Class are sons and other relatives of physicians, twelve of whom are Jefferson graduates.

Geographically, eighteen different States and Insular possessions are represented, as follows: Pennsylvania, New Jersey, Delaware, New York, North Carolina, West Virginia, Rhode Island, Connecticut Montana, Ohio, Massachusetts, Florida, Michigan, South Carolina, New Mexico, District of Columbia, Virginia, and Puerto Rico.

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Dr. David M. Davis, Phoenix, Ariz., has been appointed professor of genito-urinary surgery at Jefferson Medical College to succeed the late Dr. Thomas C. Stellwagen. Dr. Davis is a graduate of Johns Hopkins University School of Medicine and was formerly a member of the faculty of the University of Rochester School of Medicine, Rochester, N. Y.

News Notes from the Duke University School of Medicine.

On September 30th the School of Medicine and the School of Nursing began their autumn quarters with a total of two hundred and seventeen students in the former school and a total of sixty-eight in the latter.

Eight of the seniors in the School of Medicine completed the course August 31st and are now interning in various hospitals.

The following new appointments have been made to the medical school faculty: Instructors in Biochemistry, Drs. T. B. Coolidge and H. D. Tidwell; Instructor in Medicine, Dr. W. M. Nicholson; Associate Professor of Bacteriology, Dr. N. F. Conant; and Instructor in Pediatrics, Dr. Louis Spekter.

Doctors Commissioned in Public Health Service.

Dr. Clifton K. Himmelsbach, class of '31, University of Virginia, has been promoted and commissioned as Passed Assistant Surgeon in the Regular Corps of the U. S. Public Health Service, to be effective from September 1st.

Dr. Wilson T. Sowder, class of '32, University of Virginia, who later interned at St. Luke's Hospital, San Francisco, has been appointed and commissioned as Assistant Surgeon in the Regular Corps of the U. S. Public Health Service, to rank as such from date of oath.

Interesting Radio Broadcast.

A number of high school debating leagues are much interested this year in the question: "Resolved: That the several states should enact legislation providing for a system of complete medical service available to all citizens at public expense." On account of the general interest pertaining to this subject, the National Broadcasting Company is providing the facilities of its Red Network for a chain broadcast on this question on Tuesday afternoon, November 12th, from 2:00 to 3:00 P. M., Eastern Standard Time. Speakers: *Affiirmative,* William Trufont Foster, Director of the Pollak Foundation, and Professor Bower Aly, University of Missouri, Editor of the Debate Handbook; *Negative,* Dr. Morris Fishbein, Editor of the Journal of the American Medical Association, and Dr. R. G. Leland, Director of the Bureau of Medical Economics, American Medical Association.

Tune in on November 12th at 2:00 P. M.

Dr. C. C. Carpenter,

Professor of pathology at Wake Forest (N. C.) College of Medicine, has been appointed assistant dean of the school.

The Hospital Association of West Virginia,

At its annual meeting held recently, elected Dr. E. F. Heiskell, of Morgantown, as president. Dr. R. O. Rogers, of Bluefield, was elected first vice-president.

Married.

Dr. William Lemuel Griggs, Jr., St. Charles, Va., and Miss Dorothy Fugate, Clinchport, Va., September 7th.

Dr. Charles Atlas Bland, Clover, Va., and Miss Mary Ernest Johnson, Louisburg, N. C., August 31st. Dr. Bland was a member of the class of '35, Medical College of Virginia.

Dr. Harry G. Hudnall and Miss Elizabeth Beaufort Revercomb, both of Covington, Va., October 5th. Dr. Hudnall is a son of Dr. and Mrs. B. R. Hudnall, also of Covington.

Dr. Franklin Heywood Goodwin, class of '34, Medical College of Virginia, and Miss Virginia Mahone, Richmond, Va., October 1st. Dr. Goodwin was formerly of Clifton Forge, Va., but is now making his home in New York City.

Dr. Otis Gardner King, class of '31, Medical College of Virginia and recently of Bluefield, W. Va., and Miss Mayble Isobel Lawrence, Ashland, W. Va., October 8th.

Dr. Edward W. Perkins, Jr.,

Announces the opening of his office at 120 South Sycamore Street, Petersburg, Va., for the practice of Otolaryngology and the association with Dr. E. W. Perkins, Sr., in the practice of Physiotherapy. Dr. Perkins Jr., graduated from the Medical College of Virginia in 1933 and, after a years' internship

at Stuart Circle Hospital, Richmond, was resident in Otolaryngology for the next year at Roosevelt Hospital, New York City.

Dr. Howard Thompson Holden,

Class of '34, University of Virginia, Department of Medicine, who recently completed his internship at the Baroness Erlanger Hospital, Chattanooga, Tenn., is now located in the Smoky Mountains as Camp Surgeon for the CCC Company No. 426, at Ravenswood, N. C. In this work he has the rank of First Lieutenant, Medical Reserve Corps.

Dr. H. Cantor,

Petersburg, Va., attended the annual Graduate Fortnight of the New York Academy of Medicine which was held in New York City in October.

The Seaboard Medical Association of Virginia and the Carolinas

Will hold its fortieth annual meeting at the Chamberlin Hotel, Old Point Comfort, Va., December 3rd, 4th and 5th, and the hotel has offered a most attractive rate for those attending this convention. Among the guest speakers will be Honorable George C. Peery, Governor of Virginia, Surgeon General Hugh S. Cumming, of the U. S. Public Health Service, Dr. J. M. H. Rowland, Dean of the Medical School, University of Maryland, and Dr. George A. Torrence, Hot Springs, Va. There will be a symposium on Obstetrics, illustrated with movie films, and other attractive features, scientific and social. An invitation is extended all doctors interested in the Seaboard Association to attend this meeting.

Dr. A. M. Burfoot, Fentress, Va., is president, Dr. Clarence Porter Jones, Newport News, secretary, and Dr. F. C. Rinker, Norfolk, Va., treasurer.

Dr. Thomas M. Talbott,

Falls Church, Va., one of our oldest members, on October 17th celebrated his eighty-seventh birthday. Our congratulations and best wishes to him!

Attend Ohio Meeting.

Dr. Thomas J. Tudor, Norton, Va., and Dr. F. S. Givens, Wise, Va., attended the eighty-ninth annual meeting of the Ohio State Medical Association in Cincinnati, October 2nd-4th, and enjoyed a fine program as well as the annual banquet.

Dr. Robley D. Bates, Jr.,

Class of '34, Medical College of Virginia, who interned at Johnston-Willis Hospital, Richmond, is now serving a residency at the Woman's Hospital, Baltimore, Md.

Dr. S. B. Ellis,

Wakefield, Va., was elected president of the Wakefield Hunt Club, at its annual meeting held recently.

Virginia's Treasure Trove.

Such is the name of a most attractive Ballad of Good Roads, History and Progress, written by our own Dr. Roy K. Flannagan. There are sixty stanzas in rhyme, telling of the shrines and lovely historic spots in Virginia in such a clever way that we are thoroughly convinced "That here are things worth seeing." After we travel through Virginia with the author, we can say with him that

> "* * * every good American
> Should view these riches golden."

Dr. Lonsdale J. Roper,

Portsmouth, Va., was elected district governor of the Kiwanis Clubs at the meeting held in Danville, Va., in October, this district including Virginia, Maryland, Delaware, and the District of Columbia.

Dr. J. M. Biedler, Harrisonburg, Va., was elected lieutenant governor for Division Five.

Dr. William Grossman,

Class of '33, University of Virginia, Department of Medicine, has been appointed assistant State epidemiologist and will be associated with the office of Dr. G. F. McGinnes, head of the bureau of epidemiology. He succeeds Dr. Edward M. Holmes, now in Baltimore, where he plans to spend a year at the Johns Hopkins University, School of Hygiene and Public Health, under a fellowship granted by the medical research division of the Rockefeller Foundation.

Dr. M. H. Harris,

West Point, Va., has been appointed a member of the board of directors of the Kiwanis Club of that place.

Dr. R. L. Creekmur,

Formerly associated with Dr. Robert C. Bryan, has moved his offices from 917 West Franklin Street, to Dr. Bryan's office, 1108 West Franklin Street, Richmond, Va. Dr. Bryan is now in Arizona where he expects to spend some time.

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American Medical Directory in Preparation.

The work of compiling the Fourteenth Edition of the American Directory is now well under way and all members of the medical profession wish to be properly listed in this important volume. This can only be done by your cooperation and we urge all members of the Medical Society of Virginia and other doctors in this State to fill out and return promptly the questionnaire sent out by the American Medical Association.

We wish we could have every eligible doctor in the State listed in this Directory as a member of his State medical association. This can only be done by those already members paying their dues promptly so that their names are not dropped from the Society roll and by those not yet affiliated with the State Society joining promptly.

Officers of component societies are urged to bring this matter to the attention of their members promptly.

Changes in Health Districts.

Dr. Shockley D. Gardner recently of South Boston, Va., has been appointed director of the Valley Health District and entered upon his duties the latter part of September, with headquarters in Harrisonburg. He succeeds Dr. R. D. Hollowell, who was awarded a fellowship for study at Johns Hopkins University, School of Hygiene and Public Health.

Dr. James N. Dudley, Danville, Va., of the class of '33, Medical College of Virginia, has been appointed director of the Henrico County Health District, and has headquarters at Henrico County Court House in Richmond.

Dr. Elizabeth C. Cole,

Recently on the staff of the Blue Ridge Sanatorium, is now located in Norfolk, Va., where she is engaged in general practice.

Dr. Robert C. Keys,

Who was medical officer at the CCC Camp at Lyndhurst, near Waynesboro, Va., has been transferred to Headquarters of the 14th Sub-District CCC, Snow Hill, Md.

Dr. J. Shelton Horsley,

Richmond, Va., attended the meeting of the Brooklyn (N. Y.) Surgical Society on October 3rd, and by invitation read a paper on "The Surgical Treatment of Duodenal Lesions."

Dr. Alexander G. Brown, Jr.,

Who was called to Paris the latter part of September to see a patient at the American Hospital, returned to his home in Richmond, Va., on the 17th of October.

Health Survey.

The United States Public Health Service, cooperating with state and city health departments, on October 15th began a survey of chronic illnesses and physical impairments in the general population. This work is being financed by the Works Progress Administration and will give employment to 30,000 workers selected from those on relief rolls.

Virginia is one of the nineteen States selected for study, and the following communities have been chosen tentatively for this work—Covington, Richmond, Roanoke, and Saltville. The plan of work is well described in the *Journal of the American Medical Association* of October 5, 1935, pages 1121 and 1127, and doctors in the localities named are especially urged to familiarize themselves with this project.

Dr. L. R. Thompson, Assistant Surgeon General, U. S. P. H. S., in charge of this work, states that "while no one can predict the results of the study, an analysis of the questions will show their importance in filling certain gaps in our present scientific knowledge" and "the cooperation of the medical profession in the areas selected for study is vital to the successful conduct of the study and to the ultimate value of the material collected."

The American Roentgen Ray Society

Held its annual meeting at Atlantic City, September 24-27, 1935, under the presidency of Dr. Fred M. Hodges, Richmond, Va. The meeting was attended by the largest membership in its history and the scientific program was of unusual interest.

The subject of the presidential address given by Dr. Hodges was "Roentgen Therapy of Certain Infections." The Caldwell lecture before the Society was given by Dr. J. Shelton Horsley, of Richmond, Va.

Dr. Charles A. Waters, of Baltimore, Md., was chosen president-elect for the coming year.

The next meeting of the society will be held in Cleveland, Ohio, September, 1936.

The National Society for the Prevention of Blindness

Will have its annual conference at the headquarters of the Society in Rockefeller Center, New York, December 5th to 7th. Among the topics to be discussed will be: Medical Social Eye Work; Prevention of Eye Accidents Caused by Fireworks; and The Division of Responsibility between Official and Unofficial Agencies in the Movement for Prevention of Blindness.

Mr. Lewis H. Carris, managing director, announces the election of the following as honorary vice-presidents of the Society: Dr. George E. DeSchweinitz of Philadelphia, emeritus professor of ophthalmology in the Medical School, University of Pennsylvania; Dr. John H. Finley, associate editor of the *New York Times;* and Miss Lillian D. Wald, president of the Henry Street Settlement of New York City. Other honorary vice-presidents of the Society are: United States Senator Thomas P. Gore, of Oklahoma; Hellen Keller, and Mrs. Winifred Holt Mather.

Dr. J. M. Hurt,

Blackstone, Va., has been appointed Norfolk and Western Railway surgeon for that district, succeeding the late Dr. W. W. Bennett of that place. Dr. Hurt is a graduate in medicine from the University of Virginia, class of '33, and interned at St. Elizabeth's Hospital, Richmond, Va.

Dr. Benjamin W. Rawles, Jr.,

Of the class of '30, University of Virginia, Department of Medicine, has been appointed a resident surgeon at the Jersey City Medical Center, Jersey City, N. J. He is a son of Dr. and Mrs. B. W. Rawles, of Richmond, Va.

Dr. Harry Golston,

Roanoke, Va., class of '26, Medical College of Virginia took postgraduate work in heart diseases this past summer, under Dr. Samuel A. Levine at the Harvard Medical School. Dr. Golston is limiting his work to internal medicine with special reference to heart diseases.

The Aero Medical Association of the United States

Is holding its seventh annual meeting at San Antonio, Texas, November 1st, 2nd, and 3rd, under the presidency of Dr. James C. Braswell, of Tulsa, Okla., a graduate of the Medical College of Virginia, class of 1912. This Association is composed of Flight Surgeons of the Medical Corps of the Army and Navy, and Medical Examiners of the Bureau of Air Commerce, numbering about 900 members, in all sections of the country and foreign possessions of the United States.

During the meeting frequent visits will be made to the School of Aviation Medicine of the Army at Randolph Field near San Antonio, and demonstrations will be conducted for the benefit of the attending members. Representatives of the Department of Commerce and the Army Air Corps Training Center will attend the meeting and present the latest developments in aviation.

Dr. Roy E. Whitehead, Chief of the Medical Section, Bureau of Air Commerce, of Washington, and a flier himself, will conduct a conference of all Medical Examiners during the meeting.

The American Society for the Control of Cancer

Has published Cancer Committee reports of ten Southern State Medical Societies. These reports show that from the total number (835) county medical societies in thirteen states, 416 known medical societies held cancer meetings in 1935. In this area there have been 207 radio talks and newspaper articles have been published in twelve states. Nurses' study courses on cancer have been carried on in 395 hospitals.

The cancer control work during the past three years has been confined for the most part to presentation to the medical profession of facts relative to cancer of the breast and uterus.

For Sale—

General office equipment for eye, ear, nose and throat practice. Property of doctor recently deceased. For information and prices write No. 498, care this journal. (*Adv.*)

Position Wanted.

Excellently qualified OALR man available; 31; married; class A Southern University graduate, with twenty months' otolaryngology in a New York teaching hospital. Can also do rhinoplastics. Licensed in Virginia. Answer "OALR," care this journal. (*Adv.*)

XUM

Wanted—

Graduate Resident Physician for Sheltering Arms Hospital, Richmond. For information, communicate with the Superintendent, 1008 East Clay Street, Richmond, Va. (*Adv.*)

Obituary Record

Dr. William Frank Henderson,

Well-known physician of Blacksburg, Va., died September 23rd, after several years of ill health. He was eighty-two years of age and a graduate of the former Washington University School of Medicine, Baltimore, in 1876. Dr. Henderson was for a number of years physician and surgeon and later consulting physician to the Virginia Polytechnic Institute. He practiced in Montgomery County for more than fifty years and was the oldest member of the Medical Society of Virginia in point of continuous membership, having joined in 1877. He is survived by his wife and three children.

Dr. John Lemuel Thornton,

Warrenton, Va., died October 7th, after a long illness with pulmonary tuberculosis complicated by nephritis. He was a native of Halifax County and forty years of age. His medical education was received at the Jefferson Medical College, Philadelphia, from which he graduated in 1924. Before entering upon the study of medicine, Dr. Thornton had served in the World War, with the rank of second lieutenant. He had been a member of the Medical Society of Virginia for some years. His wife and a son survive him.

Dr. John Breckenridge Catlett,

Prominent physician of Staunton, Va., died September 24th, after a lingering illness. He was born in Staunton sixty-nine years ago and studied medicine at the University of Virginia, graduating in the class of '88. Dr. Catlett had served for a number of years on the board of the county health department, and as county coroner and city coroner. He was the second president of the Augusta County Medical Society and for many years a member of the Medical Society of Virginia. His wife and one son survive him.

Dr. Hugh Ferguson Parrish,

Portsmouth, Va., died suddenly on October 7th, while on a trip to Baltimore, death being due to a heart attack. He was sixty-two years of age and graduated from the College of Medicine, University of Vermont, in 1893. He was a member of the City Council of Portsmouth and had practiced medicine in that city for the past thirty-seven years. His wife survives him.

Dr. Joseph Colt Bloodgood,

Nationally famous cancer expert of Johns Hopkins Hospital, Baltimore, died suddenly on the night of October 22nd, death being due to coronary thrombosis. Had he lived until November 1st, Dr. Bloodgood would have been sixty-eight years of age.

Dr. Max Myers Fields,

Dante, Va., died June 17th, death being due to pneumonia. He was thirty years of age and a graduate in medicine from the Medical College of Virginia in 1928.

Dr. Cecil Garrenton,

Bethel, N. C., died on August 10th, at the age of fifty-two years. He was graduated from the Medical College of Virginia in 1908 and was a past president of the Pitt County (N. C.) Medical Society.

Dr. Howard Marshall Batson,

Mannington, W. Va., died on August 10th, from a combination of diseases. He graduated from the Medical College of Virginia, Richmond, in 1906, and was connected with the medical corps of the Army during the World War.